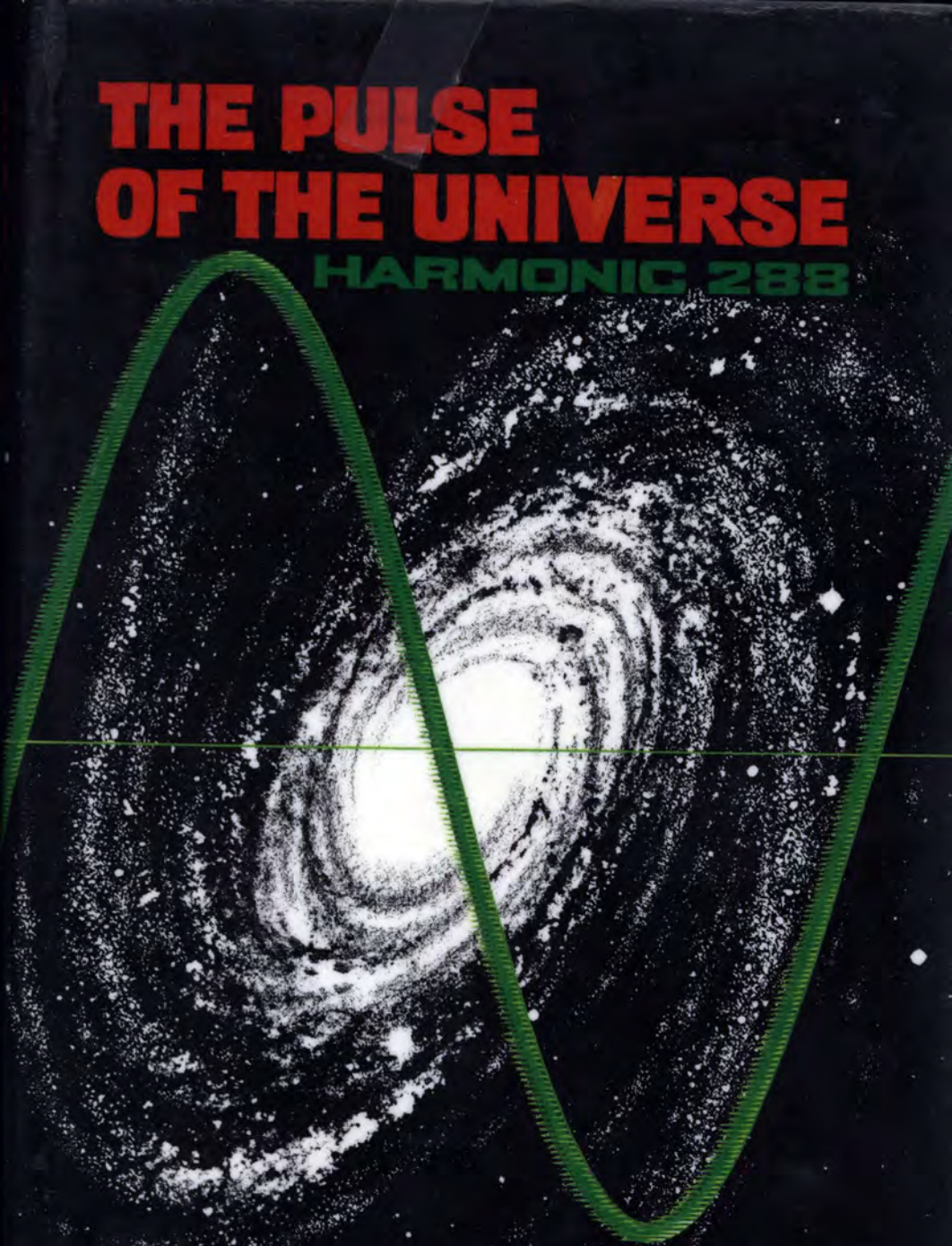
THE PULSE OF THE UNIVERSE

HARMONIC 288



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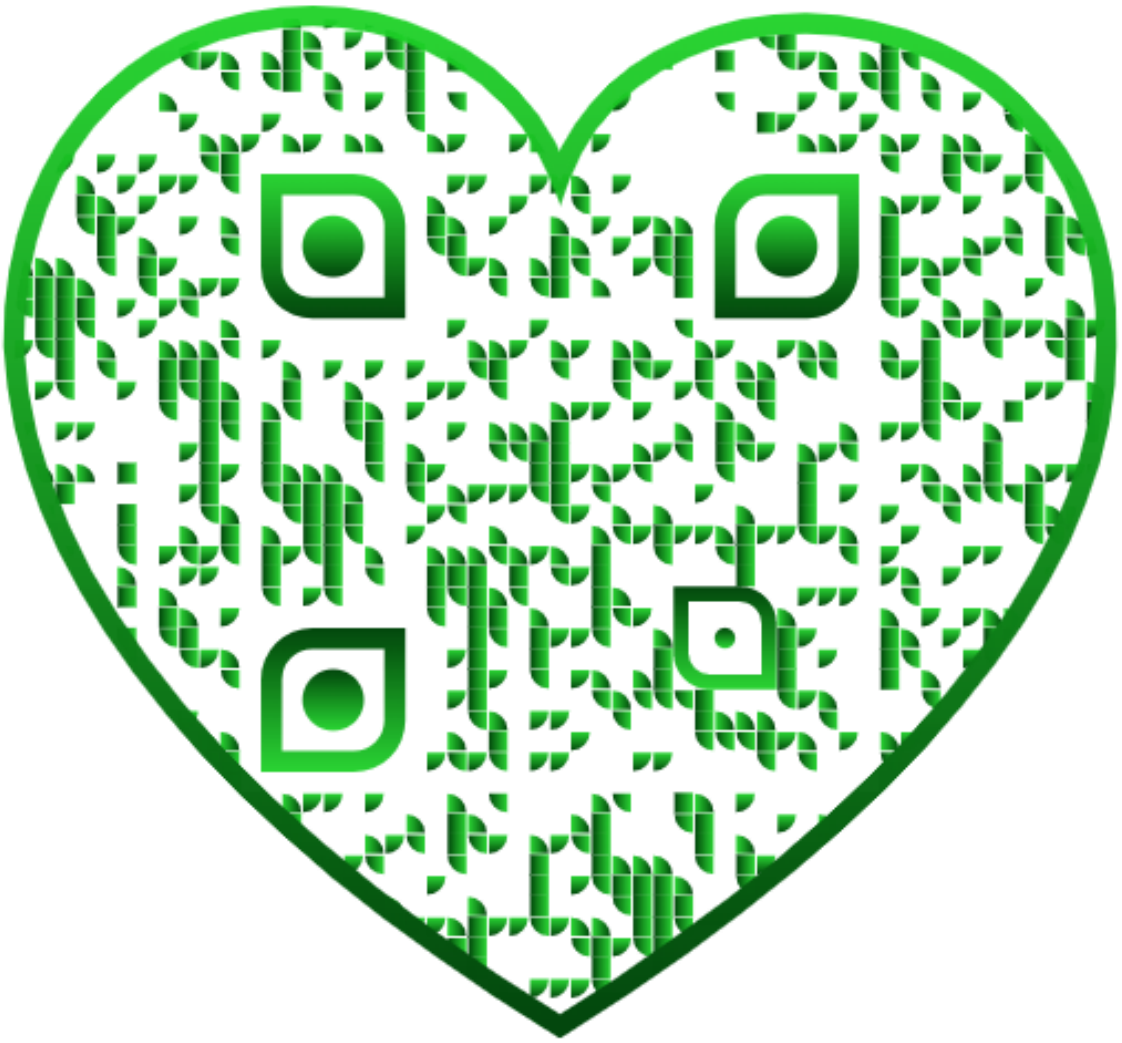

The Pulse of the Universe: Harmonic 288

by

Captain Bruce Cathie

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WELLINGTON—SYDNEY—LONDON

PREFACE

THE UNIVERSE IS A LIVING INTELLIGENCE

Its heartbeats thunder at the centre of galaxies and whisper in the nucleus of atoms. With the spiralling wave-forms of its own essence it creates from within its infinite depths the matter which constitutes all physical substances, living or inanimate. It was—-it is—it always will be—timeless.

We are created by this intelligence from the same myriad of wave-forms that interlace the depths of space, connecting all things. We and it are one. For all truth and wisdom look within, for we are a shimmering mass of miniature stars and worlds, with emerald seas and sandy shores, which in their turn provide home for intelligence.

DEFINITION OF TERMS

Harmony and harmonic etc. as defined by the *Britannica World Standard Dictionary*:

1. HARMONY: A state of order, agreement, or completeness in the relations of things, or of parts of a whole to each other.

2. HARMONIC: Producing, characterised by, or pertaining to, harmony.
(a) *Music*: Pertaining to a tone whose rate of vibration is an exact multiple of a given primary tone.
(b) *Mathematical*: Derived from, or originally suggested by, the numerical relations between the vibrations of the musical harmonies, or overtones, of the same fundamental tone: Harmonic functions.
(c) *Physics*: Any component of a periodic quantity, which is an integral *multiple of the fundamental frequency*.

In this book I discuss the fundamental harmonies of the vibrational frequencies which form the building-blocks of our immediate universe; and those of the theoretical anti-universe which modern scientists have postulated as existing in mirror-like image of our own. I theorise that the whole of physical reality which is tangible to us is formed from the basic geometric harmonies, or harmonics, of the angular velocities, or wave-forms, of light. From these basic harmonies, or resonating wave-forms, myriad other waves are created which blend in sympathetic resonance, one with the other, thus forming the physical structures.

Einstein stated that the geometric structure of space-time determines the physical processes. I theorise that space and time manifest from the geometric harmonies of the wave-motions of light. The fundamental harmonic of light, in free space, in geometric terms being an angular velocity of 144,000 minutes of arc per grid second, there being 97,200 grid seconds to one revolution of the earth.

When physical matter is manifested in the universe the wave-forms of light from which it is formed are slowed down fractionally in order to release the energy required for the formation process. This is demonstrated by the unified harmonic equations in Chapter One. It was found that to calculate the values of harmonic wave-forms that have sympathetic resonance it was possible to disregard zeros to the right, or left, of whole numbers and extract the values direct from the mathematical tables.

INTRODUCTION

TEN YEARS AGO I lived in a well-ordered world, but since that time, as I have learned what is quietly and unobtrusively going on around me, this orderliness has well and truly been shattered.

Not long ago I felt that I could believe most of what I read in the daily newspapers, heard on the radio, saw on TV or was told by those in positions of trust. Now I am not so sure of any of these sources of information. The news media are not to be blamed for this, as they, like myself, are not given access to the complete facts. In many cases the truth is so interwoven with other considerations, sometimes of such scientific complexity, that the public would find it hard to have a thorough understanding of the implications regardless of what was passed on to them.

Every method possible is being used to divert our attention from the most mind-bending, fantastic thing to happen to man in modern times. I say modern times because ancient man was fully aware of the knowledge we are now being protected from. We are not alone in the universe. We are being visited.

If this is not startling enough, evidence strongly suggests that modern-day scientists have discovered the secrets of anti-gravity, travel in space-time, which makes possible journeys to the most distant stars; the geometric structure of matter and anti-matter; the tapping of energy from the earth itself at almost no cost; transmutation of the elements; disintegration of matter by use of laser, or light beams—these beams can be made selective; almost instant communication between any number of points on the surface of the earth, through the earth itself. These and myriad other technological wonders are possible today. In one great surge of progress the whole world could be transformed into a material wonderland. But this is not to be allowed by those in control. “Do not rock the boat! Join us”, they say, “and you will not want for material things again for the rest of

your life. Keep what you know to yourself, it is not right for the public to have this knowledge—be warned!"

I cannot do what they demand. Knowledge must be free to all who wish to seek it. To suppress knowledge is evil. I don't know for sure who "they" are because the contacts are always made by those on the fringe of the groups. Whenever I try to find out who the contacts speak for, or why the secrecy must be maintained, communication is blocked off. I have an uneasy feeling that the world is being slowly and surreptitiously taken over by an all-powerful élite. I only hope that if they succeed their purpose is one of eventual benevolence.

I began my research in 1965. I had observed several unidentified flying objects while carrying out my flying duties with NAC (the New Zealand national airline), and eventually discovered that their movements conformed to a worldwide grid pattern. At first I believed the grid structure to be artificially produced, but now I know it to be the natural form through which all physical matter is manifested within the universe.

Over the years I have been able to produce unified equations which demonstrate the harmonic affinity between the angular velocity of light and all the physical substances.

At first I was not very sure of the results I was obtaining, in mathematical terms, from my research, as I am not a scientist versed in physics or mathematics. This uncertainty has slowly changed as I have been approached by scientists, engineers, mathematicians and representatives of various intelligence groups from around the world. I have been offered extremely attractive monetary inducements from representatives of similar types of research in order that they may control the dissemination of the knowledge I have been able to amass. This, so far, I have refused as I believe that every individual has the right to live in a free society and have direct access to scientific knowledge.

I have continually asked these people for a convincing moral reason why I should suppress the information now in my possession, and so far they have been unable to supply one. I would indeed like to be involved with one of the larger agencies in this type of research, but not under the conditions so far imposed. Possibly this situation will change in the future as the

world society recognises the need for trust between nations. I would then be able to join them with an easy conscience.

We are only the small people with little say in the running of the world; but we have a right to a voice in the control of our own destiny.

B.C.

ONE

MATHEMATICS OF THE WORLD GRID

MY INTEREST in the increasing UFO activity in the New Zealand area led me to the discovery that the surface of the world was crisscrossed with an intricate network of energy grid lines. I began my research in 1965. The information in this chapter regarding the structure and mathematical values built into the system will consist of material condensed from my first two books* plus the findings derived from my recent research up to July 1976.

In a general way I was convinced that UFOs were actively engaged in a survey of the earth for some definite reason. I felt that their visits were not haphazard; they were not just on casual sightseeing tours. Quite a number of investigators around the world had come to the conclusion that the sightings were beginning to form a pattern. At this period, however, this pattern was so complex as to defy any definition, or solution. By the correlation of sightings small sections of track had been identified, and some saucers had been seen moving along these set paths. Some of these had hovered over certain spots at set intervals. But these bits and pieces of tracklines were so scattered around the surface of our planet that it was quite impossible to fit them together into any semblance of order.

I was certain that if an overall pattern could be found and plotted, it might be possible to establish the reason behind UFO activity. I considered that the pattern would be geometric if these things were intelligently controlled, and that if somehow I could find the key to one section then I might solve the rest by duplication and inference.

I had sighted a number of unidentified objects in the sky over a period of several years, and by correlating two of these with

* *Harmonic 33* and *Harmonic 693*: *The UFO and Anti-Gravity.* Reed, Wellington.

other data I was eventually able to construct a grid system which covered the whole world.

One of these sightings was in 1956. I was a DC3 co-pilot crewing a flight from Auckland to Paraparaumu. It was about 6 pm, conditions were calm, and there was unlimited visibility. We were just south of Waverley at 7000 feet when I saw this object at an extremely high altitude in the east. I drew the captain's attention to it and together we watched it travel in a curved trajectory from east to west across our track until it disappeared in a flash of light at about 10,000 feet in the area of D'Urville Island. It appeared to travel across New Zealand in the vicinity, or slightly to the north, of Cook Strait, and it was so large that two streaks, similar to vapour trails, were seen to extend from either side of its pale green disc.

When about halfway across the Strait a small object detached itself from the parent body and dropped vertically until it disappeared. It looked almost as if the main disc was at such a high temperature that a globule had dripped from it. I thought about this later and decided that if that were so, the small object would also have a curved trajectory in the direction of the parent body. But this was not so; it detached and dropped *vertically* down at great speed. There could be only one answer for this action: the small body must have been controlled.

Calculations at a later date proved this UFO to have been between 1500–2000 feet in diameter. A report in a Nelson newspaper on the following day described an explosion at a high altitude to the north of the city. The shock-wave broke windows in some local glasshouses.

The other sighting occurred on 12 March 1965. This was the best and most interesting of them all, and from then my investigations were pressed on with all speed until they culminated in my present findings.

I had always expected to see UFOs in the sky, and that was where my attention was usually focussed. When I was flying I was alert and ready to analyse any object sighted from the aircraft. I never expected to find a saucer landing at my feet and so far this has never happened. This sighting however was different from all the others because I observed it lying under thirty feet of water.

I was scheduled to carry out a positioning flight from

Whenuapai, Auckland's main airport at the time, to Kaitaia. Departure was at 11 am and as no passengers were involved and the weather was perfect, I decided to fly visually to Kaitaia along the west coast. An officer from the operations department was on board and this was a good opportunity to show him some of the rugged country to the north. (I must stress that air-traffic regulations were strictly observed during the flight).

On leaving Whenuapai I climbed to clear the area and when approaching the southern end of the Kaipara Harbour, just north of Helensville, I dropped to a lower altitude to have a better look at anything in the flight path. The tide in the harbour was well out, and the water over the mudflats and estuaries was quite shallow.

I suppose we were about a third of the way across the harbour when I spotted what I took to be a stranded grey-white whale. I veered slightly to port, to fly more directly over the object and to obtain a better look.

I suppose a pilot develops the habit of keeping his emotions to himself. As far as I can remember I gave no indication of surprise, and I said nothing as I looked down. My "whale" was definitely a metal fish. I could see it very clearly, and I quote from the notes I made later.

A. The object was perfectly streamlined and symmetrical in shape.
B. It had no external control surfaces or protrusions.
C. It appeared metallic, and there was a suggestion of a hatch on top, streamlined in shape. It was not quite halfway along the body as measured from the nose.
D. It was resting on the bottom of the estuary and headed towards the south, as suggested from the streamlined shape.
E. The shape was not that of a normal submarine and there was no superstructure.
F. I estimated the length as 100 feet, with a diameter of 15 feet at the widest part.
G. The object rested in no more than 30 feet of clear water. The bottom of the harbour was visible and the craft was sharply defined.

Inquiries made from the navy confirmed that it would not have been possible for a normal submarine to be in this particular

position, due to the configuration of the harbour and coastline.

An American scientist checked this spot on the harbour with a depth-sounder in September 1969. He informed me afterwards that a hole had been detected in the harbour bed approximately one eighth of a mile wide and over 100 feet deep, which I consider would indicate that some activity had been carried out in this position some five years previously. I published the scientist's report in my second book.

I had a further key to the puzzle in April 1965. My wife saw an advertisement in the local paper seeking members for a UFO organisation called New Zealand Scientific and Space Research. I contacted this organisation and found that a vast amount of information had been very efficiently compiled. Material had been collected from twenty-five different countries over a period of twelve years. I was invited to study the information at leisure.

Amongst this mass of data I discovered the reports of a UFO that had been seen from several different localities in both islands of New Zealand on 26 March 1965. People in Napier, New Plymouth, Palmerston North, Wanganui, Feilding and Otaki Forks in the North Island; Nelson Coast Road, Blenheim and Westport (Cape Foulwind) in the South Island, had all reported sightings.

It was decided that I try to plot the track of this UFO. From the considerable amount of information available I found that the maximum variation in the times of sightings from all areas was 15 minutes. Most reports gave the time as 9.45 pm. This proved that the object must have been very large and at high altitude during the greater part of its trajectory.

Here is a brief description of each sighting taken from the original reports:

1. *New Plymouth*

About 9.40 pm Mr A. Nixon went outside his home to put out the milk bottles. He had a clear view over the sea to the north. A glow first appeared on the horizon and as he looked at it he saw a light that was approaching slowly. Then it came nearer at tremendous speed, lighting up the clouds in a red glow as it passed through them. As it passed overhead in a clear patch of sky, the object was sharply defined. It was bright white in colour, and was ball-shaped with a silvery

edge. After passing overhead the rear emitted a red glow. It sped to the west of Mt Egmont and disappeared. According to Mr Nixon "his hair stood on end".

2. *Napier*

A bright object was seen by a resident to curve through the sky at 9.45 pm. It was visible in the north-west and changed colour from white to a vivid green, then to a vivid red before it disappeared behind some trees.

3. *Wanganui*

Between 9.30 pm and 10.00 pm Mr N. F. C. Grotenhuis was looking out of a window when he saw a flash similar to lightning. Then he observed a fireball which appeared to fall towards the south. It began as a bright white light, changed to greenish blue, then to a sizzling red before it disappeared like a shooting star. The sky was clear at the time.

4. *Feilding*

While cycling up a hill Miss Raida Campbell heard a swishing sound. It was followed by a blinding blue-white light, similar to a flash of sheet lightning. The whole area was lit by this, then she saw a huge orange ball that "looked like a dinner-plate". The ball seemed to emanate from the left edge of the blue-white light. After a few seconds it exploded and three orange balls, like tennis balls and very dense, appeared at the right-hand edge and disappeared.

Miss Campbell said the three smaller balls seemed to emerge from the larger ball when it vanished. The apparent track was from north-east to south-west.

5. *Palmerston North*

A woman witness saw an object in the sky at about 9.30 pm. It was a vivid green with a long comet-like tail issuing from a deep orange centre. It descended and disappeared from view behind a nearby building.

6 *Otaki Forks*

This is a position in the Tararua mountain range. While tramping in the area, five Venturer Scouts saw an enormous bluish-white ball of light in the sky at 9.45 pm. This was surrounded by what looked like sheet lightning. The sighting was brief; the ball seemed to be stationary and apparently far

away to the west, and about half the size of a full moon. One of the scouts, Mr Parnell, said that later the size of the object was worked out trigonometrically by the group and the diameter arrived at was about 2000 feet.

7 *Nelson*
Over the mudflats of Tasman Bay, a resident saw a very bright flash in the sky. Immediately afterwards, three bright green balls descended at a 45° angle. This was at 9.45 pm (a flying pawnshop?).

8. *Nelson Coast Road*
At 9.45 pm a Nelson resident driving towards Wakapuaka saw a big white ball with a bluish tail light up the place like day. It then burst in a shower of bright particles.

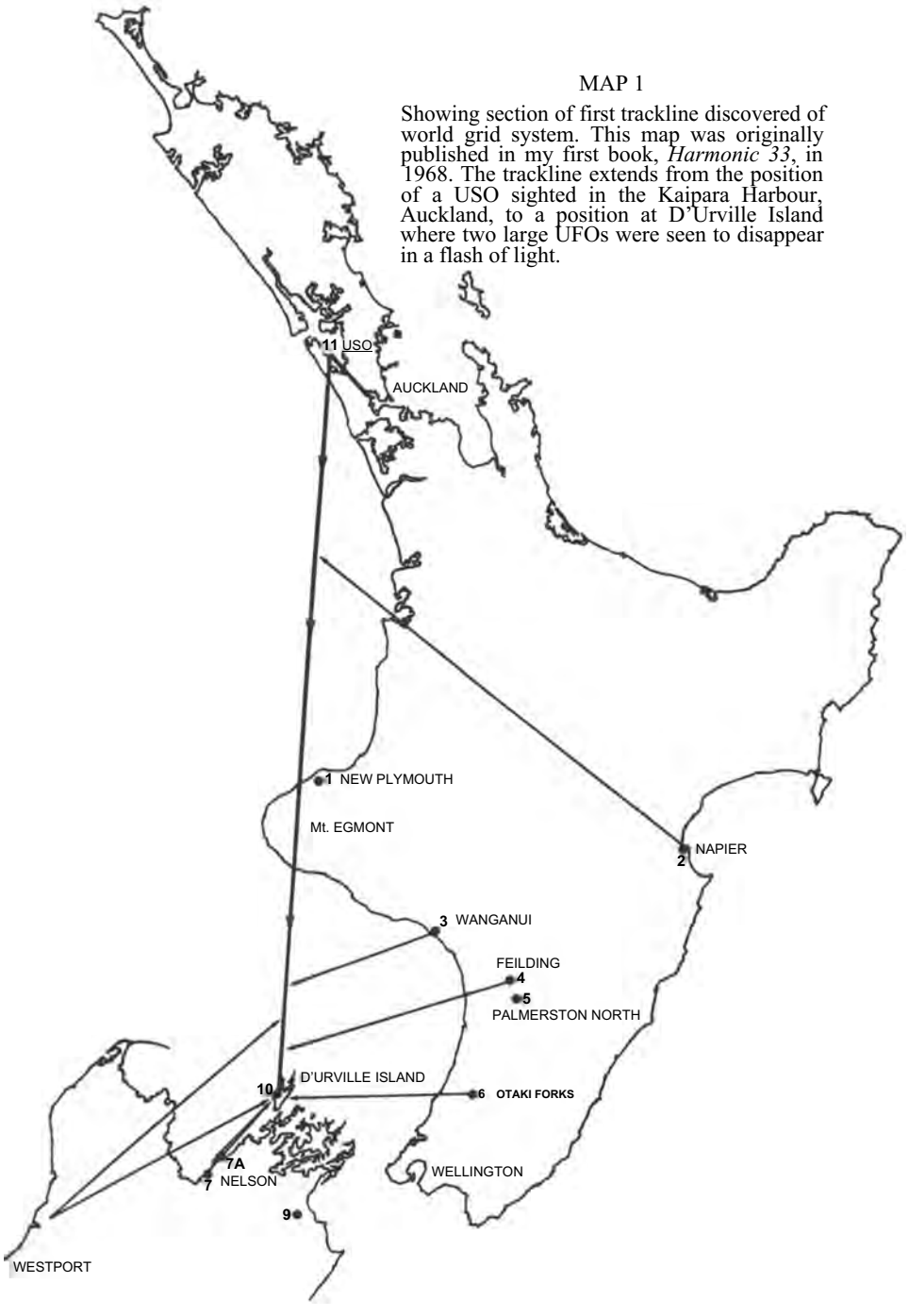
9. *Westport*
Mr L. H. Keay, a farmer, saw a bright object in the sky. It was far brighter than the moon, and lit up the sky with a bright white light that changed to green, and then to red. It apparently fell eastwards. The time was "somewhere around 10 o'clock".

10. *Blenheim*
Mr and Mrs Bell and their daughter Linda, Margaret White, and many other people, saw a great green ball of light that seemed to explode over their heads. A small brightly-coloured ball broke away and whizzed off to the east. It was 9.45 pm. Mrs M. Christensen observed a green ball, about the size of a cricket ball. It descended steadily from the sky, and appeared to be very close and dull in colour. Time 10.15 pm.

There was nothing of any great significance or originality in these accounts, and they followed the pattern of many other sightings. However from the mass of detail supplied by so many different people over so wide an area, it was possible to plot the track of the object with reasonable accuracy. I started work on a Mercator's plotting chart, and after several hours of checking one report against the other, and calculating possible elevations and trajectories, I felt I had refined the plot sufficiently to draw in the final track of the object, or objects. The result is shown on map 1.

MAP 1

Showing section of first trackline discovered of world grid system. This map was originally published in my first book, *Harmonic 33*, in 1968. The trackline extends from the position of a USO sighted in the Kaipara Harbour, Auckland, to a position at D'Urville Island where two large UFOs were seen to disappear in a flash of light.



> The track began about seventy nautical miles north of New Plymouth, passed just to the west of Mt Egmont, and finished at D'Urville Island. When first seen the altitude would have been about 30,000 feet curving down on a flight path to somewhere around 10,000 feet when it disappeared.
>
> *Some time after those sightings on 26 March 1965 I had another look at the plot I had made. I could find no flaws in my thinking, but I needed more information. As I was to discover many times later, the clues were quite obvious, but I was then not sufficiently expert in realising their significance. In point of fact this first trackline was to be the starting point of a whole string of discoveries of which I have yet to find an end.*

(When I wrote that comment ten years ago little did I think that in 1976 I would still be making discoveries based on my original work. No doubt when another ten years have gone by I will still be at it!)

I pored over that plot for a long time before it suddenly occurred to me that the track appeared in line with the position where I had sighted the unidentified submarine object, or USO, on 12 March 1965. On extending the line back I found it was in line with the sightings of 26 March. I was positive there had to be a connection—but to prove it was a different matter.

I checked my report files again and found that on 2 March some fishermen just north of the coast at New Plymouth had seen a large object plunge into the sea and disappear. They thought it was an aircraft and reported the incident to the appropriate authorities, but no aircraft or personnel were missing. I checked this position on the map and found that it also fitted the established trackline. Was this connected with the USO of 12 March, and could the two sightings be of the same object, sighted twice in ten days? Could it be working slowly up this track carrying out some project on the sea bed? I tucked this thought away for future reference and carried on with the search.

It was some days later that I remembered the UFO I had seen in 1956. This object was similar and, most significant of all, both objects had apparently travelled at 90° to each other, and finished in the same grand all-illuminating flash in the area of D'Urville Island.

If these objects were *not* controlled, how could anyone explain such coincidences? No two meteors or other natural phenomena could coincidentally carry out similar manoeuvres, travel at 90° to each other, and both decide to end their existence at the same point in space, within nine years of each other. Also, in both cases, objects had been seen to emerge from the parent bodies. Was this irrefutable evidence that they were intelligently controlled vehicles?

I plotted the track of the 1956 UFO on the map at 90° to the north-south line. I realised that I had no definite proof that they were at exactly 90° to each other or that the 1956 track was not a few miles north or south of this position—still, I had to start from somewhere, and I would assume this to be correct unless and until other evidence proved me wrong.

Two track lines at 90° meant little on their own. If I found several at 90°, I might have something—a grid perhaps? These two lines hinted at this, and I believed that if I could solve the system of measurement, then I had two readymade baselines to work from.

Once again I went to the UFO files and found that a Frenchman by the name of Aimé Michel had been studying UFOs for a number of years and had found small sections of tracklines in various areas of Europe. Saucers had been seen hovering at various points along these tracklines, and Mr Michel had observed that the average distance between these points was 54.43 kilometres. By itself this was only a small grain of information but, like a starting gun, it set me off again.

Using the Kaipara Harbour as a starting point, I marked off the 54.43 kilometre intervals along the trackline I had found. I was disappointed when I was unsuccessful in obtaining an even distribution of positions to the D'Urville Island disappearing point. I checked and re-checked, but nothing worked out. I slept on the problem, and at some time during the night inspiration turned up the wick; once more the light grew bright.

I remembered that a great number of sightings had occurred around the Blenheim area. Even before the advent of ordinary aircraft in New Zealand, this area had been visited by UFOs. I had read about them in old copies of the local papers, and many recent sightings suggested again that this area had something special about it.

So I dragged out my map and extended the trackline until it cut a 90° coordinate from the town of Blenheim. The distance from this point to the Kaipara position I found to be exactly 300 nautical miles. So far so good. I stepped off the 54.43 kilometre intervals—and swore. *Still* the thing didn't fit! Frustration was always my companion in this business, and we had many, many arguments! Sometimes it was a protracted battle of wits . . . a fiddle with my computer and I was off again.

Michel had found the interval of 54.43 kilometres in the northern hemisphere. The earth is slightly pear-shaped, and a nautical mile is the measurement of a minute of arc on the earth's surface; so a nautical mile could be slightly longer in the southern hemisphere, due to the distortion of the earth itself. I found 55.5 kilometres to be equal to 30 nautical miles, and this divides exactly into 300 nautical miles, ten times. Was this the system of measurement used by the UFOs? There was no proof, of course, but it seemed a reasonable assumption. A minute of arc is a measurement which could apply to the whole universe. It just so happens that a minute of arc from the earth's centre subtends, at the surface, what we call a nautical mile. So be it. . . .

Since I made that statement in my first book I have been attacked repeatedly by university personnel and others in the academic field. They have maintained that degrees and minutes of arc are arbitrary values set up by the ancient mathematicians and that therefore my calculations are meaningless. I believe the evidence shown in this, my third book, will now convince them that my original assumptions were correct. The angular values of 360° and 21,600 minutes of arc which constitute a complete circle have direct geometric associations with the speed of light (as shown in Chapter Three).

The fifth interval of 30 nautical miles from the Kaipara-position coincided with the position off the coast of New Plymouth where the mysterious object had plunged into the sea. The plotted points of disappearance of the two large UFOs at D'Urville Island did not quite match up with the ninth interval, but this did not worry me unduly as I expected that a small percentage of error must be expected in my original plot. I readjusted this position to the ninth interval, and carried on the search to see how many other sightings I could fit into this pattern.

The results exceeded my expectations. I found that by using units of 30 minutes of arc latitude north-south, and 30 minutes of arc longitude east-west, on my Mercator's map, a grid pattern was formed into which a great number of UFO reports could be fitted. I eventually had a map with sixteen stationary and seventeen moving UFOs plotted on grid intersections and tracklines.

Having satisfied myself that my reasoning and plotting were not false, I considered that I had good proof that New Zealand, possibly other countries, and probably the whole world, were being systematically covered by some type of grid system (see grid map 2).

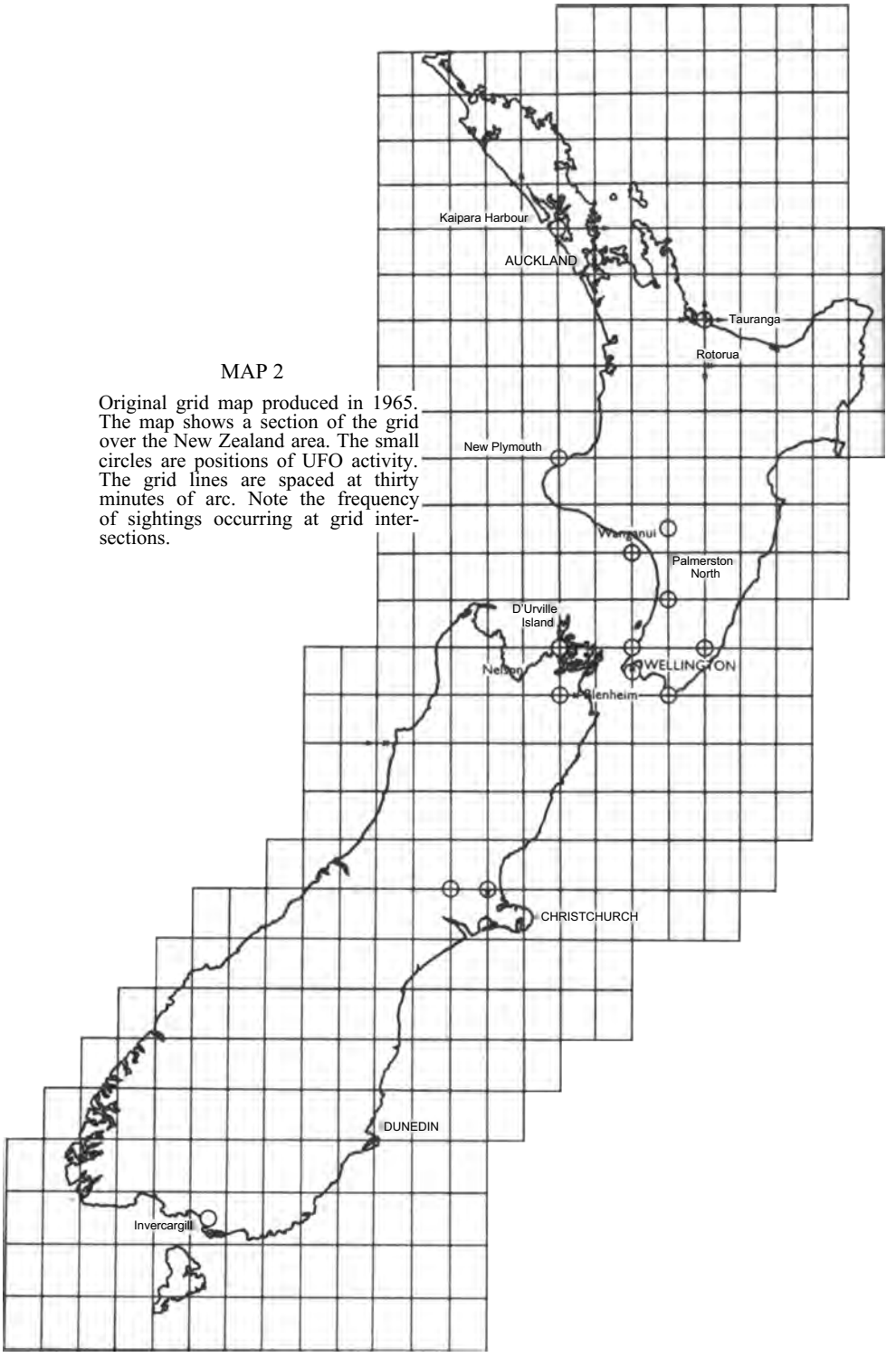
In my first book I demonstrated that the main grid pattern consisted of grid lines spaced at intervals of 30 minutes of arc (latitude and longitude). In my second book I probably confused the issue a bit as I stated that the east-west grid lines were spaced at 24 minutes of arc. This was due to the spacing being measured in nautical miles, or values in minutes of latitude. The actual length of a minute of longitude varies mathematically from one nautical mile at the equator, to zero at the north and south poles.

The value of 30 minutes of arc in terms of longitude in the New Zealand area happened to be an average of 24 nautical miles, which can be confusing to those readers who are not familiar with map scales.

Reference to the grid structure will therefore be stated from now on in minute of arc values only, for latitude and longitude, to minimise confusion.

I subsequently discovered that the grid lattice could be further divided. It is now evident that the grid lines in the main system are spaced at intervals of 7.5 minutes of arc north-south, and east-west. The importance of this will prove itself when compared with the rest of the calculations in this book. There are 21,600 minutes of arc in a circle, and when this is divided by 7.5 we get a value of 2880. The grid lattice therefore is tuned harmonically to twice the speed of light (288), as will be shown in other sections.

It appeared that I had found a section of a geometric grid pattern in the New Zealand area. I now had to form some theory



MAP 2

Original grid map produced in 1965. The map shows a section of the grid over the New Zealand area. The small circles are positions of UFO activity. The grid lines are spaced at thirty minutes of arc. Note the frequency of sightings occurring at grid intersections.

of construction for the whole world. I could then possibly fit the New Zealand section into it.

By drawing a series of patterns on a small plastic ball I finally found a system which could be used as a starting point for a global investigation. (The basic pattern is shown in diagram 1).

I was sure I was on the right track, but I now had to superimpose this pattern on the world globe. It was essential that I find a point position somewhere on the earth upon which to orientate the geometrical pattern. I finally came upon an item of news that gave me a very important clue on how to proceed.

On 29 August 1964 the American survey ship *Eltanin* was carrying out a sweep of the sea-bed off the coast of South America. A series of submarine photographs was being taken of the area by means of a camera attached to a long cable. A surprise was in store when these photographs were developed. On one of the points, in marvellous detail, was an aerial-type object sticking up from an otherwise featureless sea-bed.

This object appeared to be metallic and perfectly symmetrical in construction. The array consisted of six main crossbars with small knob-like ends and a small crossbar at the top. Each cross looked to be set at angles of 15° to the others, and the whole system stood about 2 feet in height. The position where this object was found was given as latitude 59° 08′ south, longitude 105° west.

As this bit of ironmongery was situated at a depth of 13,500 feet below the surface, I was certain that no human engineers had placed it there.

Scientists may be able to descend to those depths in specially constructed bathyspheres, but I don't think they could work as deeply as that on a precision engineering problem. In view of my earlier sightings in the Kaipara Harbour, I was willing to accept that the aerial-type object had been placed there by an unidentified submarine object, or USO.

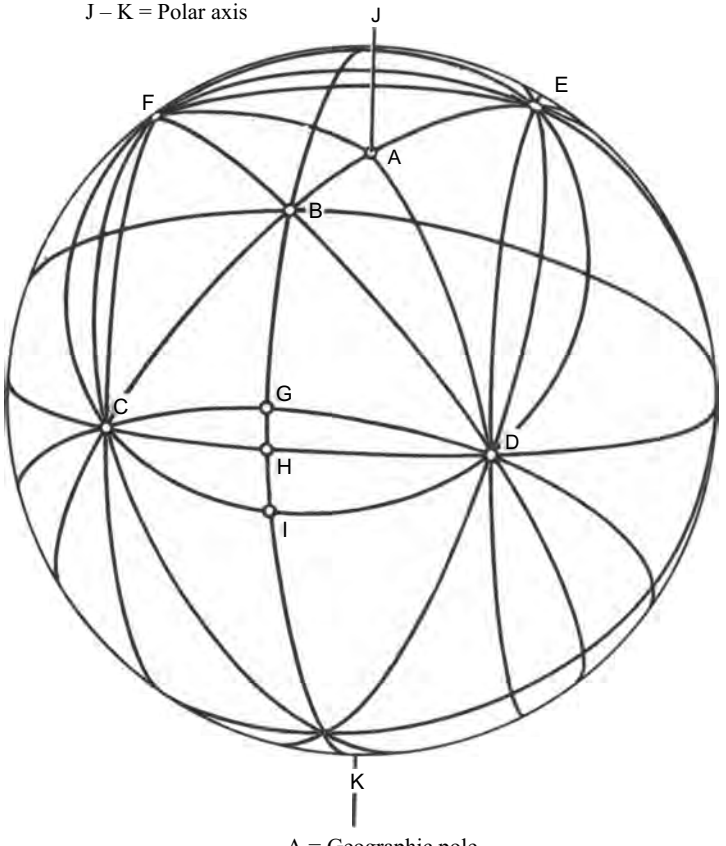
Since this photo was taken there has been a determined attempt by the scientific world to label this object as nothing more than a plant of some sort. A journalist friend and I managed to visit the *Eltanin* during one of its few visits to New Zealand and when we discussed this object with some of the scientists on board, the comment was that it was classed as an artefact. This was before the great hush-up but, regardless of

DIAGRAM 1

Showing relationship of grid structure to the geographic poles. Each of the two grids has a similar pattern, the interaction of which sets up a third resultant grid. The poles of the three grids are positioned at three different latitudes and longitudes.

C, D, E, F = Corner aerial positions of grid polar square. Similar to aerial discovered by the survey ship *Eltanin*

J – K = Polar axis



A = Geographic pole

B = Grid pole

Distance C–G–D = 3600 minutes of arc

Distance C–H–D = 3418.5 minutes of arc

Distance C–I–D = 3643.2 minutes of arc

(3600 – 3418.5 = 181.5) (181.5 × 4 = 726) (√726 = 26944)

(Reciprocal of 36432 = 27448397)

(27448397 ÷ 972 = 28239) (28.239 = Gravity acceleration harmonic)

(3643.2 – 3600 = 43.2) (43.2 × 4 = 172.8) (172.8′ = 2.88°) (288 = 2C)

that, I believe that the mathematical proofs will show without doubt that the object is artificial, and most probably an aerial of some sort.

The form of this aerial-like structure also fitted in with the general pattern of the grid as I had envisaged it on the plastic ball. The six main crossbars denoted the radiating points of six or twelve great circles which form the main structure of the grid.

I centred the grid on the position of the object found by the *Eltanin,* and the 180° reciprocal of this in Russian Siberia, lining the whole thing up with the section I had found in New Zealand. I found the system to be lined up very closely with the magnetic field of the earth. The equator of the grid followed very closely the line of zero dip around the world. (That is, the positions on the earth's surface where a magnetic compass needle has only a horizontal and no vertical component).

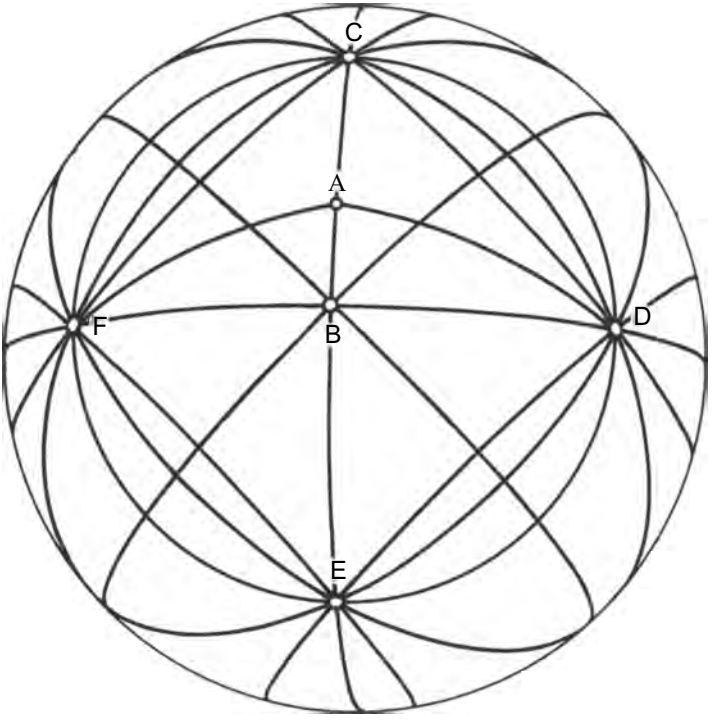
In my first two books I discussed the methods I used to line up the system and calculate the first estimates of the grid pole positions, and the major focal points of the grid similar to the *Eltanin* "aerial" placement.

The reciprocal position of the *Eltanin* "aerial" is at latitude 59° 08′ north, longitude 75° east, in Siberia. I calculated the length of the diagonal of what I call, for simplicity, the "polar grid square" and found it to be 5091.168825 minutes of arc long. I plotted a track from the Siberian position through the north geographic pole and measured off this distance to locate another corner "aerial" of the polar square. (Square is not technically the right word to use as the four sides are formed by sections of small circles which are in different planes to each other. When the "polar square" areas are transferred from the surface of the earth sphere on to a flat plane such as a map, then a perfect square is formed with sides 3600 minutes long and diagonals of 5091.168825 minutes of arc).

In my first two books I stated, in error, that the sides of the "polar squares" were formed by sections of GREAT circles 3600 minutes of arc long, instead of SMALL circles. The great circle distance between these points is in fact 3,418.5 minutes of arc, which is very confusing to any investigator attempting to reconstruct the grid. I apologise to my readers for this error, which was caused by my lack of access to calculators during my earlier research. In the grid pattern there are actually two small-circle

DIAGRAM 2

Showing the relationship of a grid polar square to the geographic pole. Each grid has a similar pattern.
The pole of each grid is set at a different latitude and longitude.



A = Geographic pole
B = Grid pole

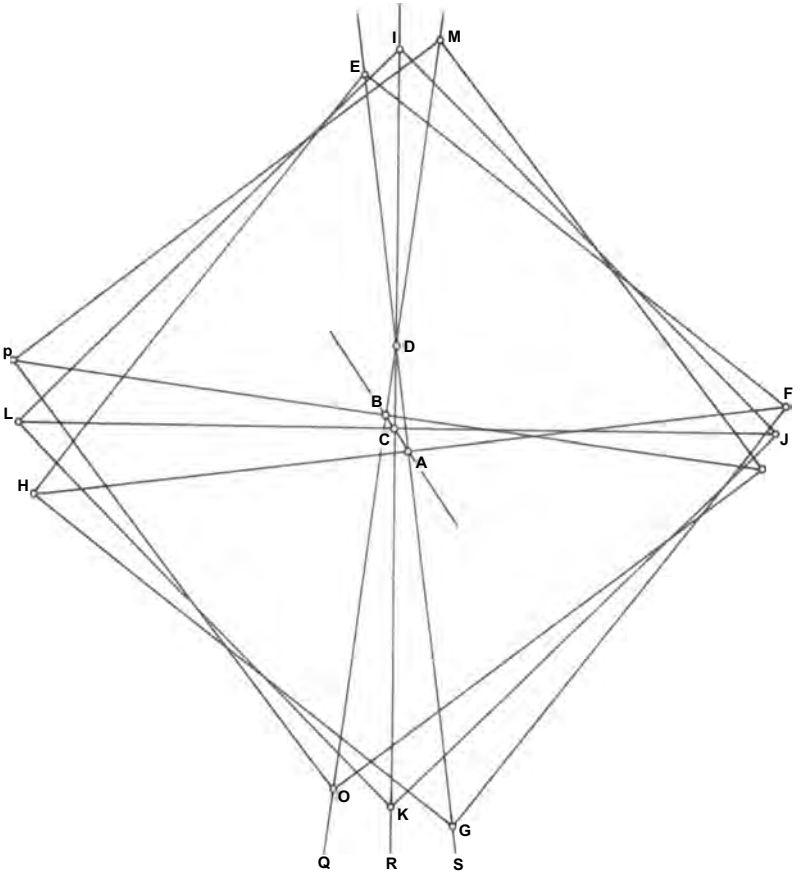
C
D
E
F
= Corner aerial positions of grid polar square

B–C
B–D
B–E
B–F
= 2545.584412 minutes of arc

A–B Grid “A” = 1054.4 minutes of arc
A–B Grid “B” = 694.4 minutes of arc
A–B Grid “C” = 864 minutes of arc (resultant grid)

DIAGRAM 3

Showing the relationship of grid polar squares A, B, and C. The polar squares are orientated in reciprocal positions around both the north and south geographic poles.



A: Grid pole “A”: 1054.4 minutes of arc from geographic pole
B: Grid pole “B”: 694.4 minutes of arc from geographic pole
C: Grid pole “C”: 864 minutes of arc from geographic pole

D: North geographic pole
E, F, G, H: Polar square “A”
I, J, K, L: Polar square “C”
M, N, O, P: Polar square “B”

Q: Longitude 105° 00′ west
R: Longitude 97.8° west
S: Longitude 90.6° west

segments, and one great-circle segment connecting each of these points which form the polar squares. Each of the segments has a different path over the earth and some tricky calculating is necessary to ascertain the true length. Although I used the wrong term in my earlier publications, the actual calculations derived from the grid system are not altered in any way, and still stand the test of time. Over the last few years I have slightly refined the values I demonstrated previously, derived from a mixture of practical and theoretical studies. I have now set up what I see as a completely theoretical system, discovered by working entirely by calculator. Time will prove how close my calculations are. I have no doubt that I, and others, will continue further to perfect the system as more facts come to light.

Once I had established this first baseline I found it quite easy to construct the main skeleton of the grid over the whole surface of the earth.

As my work progressed I found that there were in fact two similar grids, interlocked with each other. The poles of the grids were spaced at different distances from the north geometric pole, and this arrangement set up a series of geometric harmonics which were directly related to the speed of light, mass, and gravity. The interaction of the two grids created a harmonic resonance which, in turn, formed a third resultant grid.

After ten years of work and correlating information I have now calculated theoretical positions for the three grid poles in the northern hemisphere which are very close to my original estimates. Reciprocal positions will give similar values for the southern hemisphere:

Grid pole "*A*" = Latitude 72.4266°/longitude 90.6° west 1054.4 minutes of arc from the North Pole.

Grid pole "*B*" = Latitude 78.4266°/longitude 105" west 694.4 minutes of arc from the North Pole.

Resultant grid pole "*C*" = Latitude 75.6°/longitude 97.8° west 864 minutes of arc from the North Pole.

The values of 1054.4, 694.4 and 864 fall on spacial curves which have direct harmonic associations as follow:

1054.4 = Appears to be associated with the harmonic cross-sectional area of all atoms.

694.4 = Harmonic of the speed of light reciprocal $\frac{1}{C}$

$864' = 14.4° =$ Harmonic of the speed of light.

The longitudinal separation of Grid A and Grid B is also 14.4°, which sets up another direct harmonic with the speed of light. The separation creates a phase-difference harmonically tuned to the circumference of the atom. I have shown in Chapter Five that the harmonic circumference of all atomic structures is a constant of 1152 units. The spacing of the grid lines in each of Grids "A" and "B" is 7.5 minutes of arc. If the angle of separation of the two grids of 14.4°, or 864 minutes of arc, is divided by the grid-line spacing of 7.5 minutes of arc we get 115.2 units, or (1152 harmonic). When this harmonic is applied to the circumference of an atom it denotes the eight possible electron positions spaced at 144 units apart. In other words, each electron in an atomic shell is spaced at the speed of light harmonic 144 units from its neighbour.

[144 × 8 = 1152]

The diagonal of the "polar square" of 5091.168825 units can be broken down into a series of values:

$$5091.168824 \div 2 = 2545.584412$$

$$2545.584412 \div 7.5 = 3.39411255$$

$$3.39411255^2 = 11.52$$

$$11.52 \div 8 = 1.44 \text{ (speed of light harmonic)}$$

$$2545.584412^2 = 6480000$$

Reciprocal of 2545.584412 = .03928371

The number 648 is a harmonic factor of great importance, as will be demonstrated in other sections of this book.

The many other harmonic factors, centred around the "polar square" corner "aerial" positions, form a series of complex mathematical associations, and this can be left for those who wish to carry out their own research. If I can show how to

construct the main "bones" of the grid my part of the job will be complete. I have found it impossible, so far, to plot the fine grid structure of lines 7.5 minutes apart, over the whole world, because of the complexity of such an exercise. (A full computer programme would be necessary and I do not have the finance required for such an undertaking).

So far I have confined myself to the New Zealand area, with the small section of finely-spaced grid lines that I originally discovered. Over the years I have been able to plot into this map a great many interesting facts which indicate activity by various scientific groups. This has helped me to gradually build up my own knowledge of the system.

My nosiness has not gone unnoticed—as evidenced by the constant probing of interested parties endeavouring to find out the extent of my discoveries. I hope that in the near future the international combines involved in this advanced research will make known to the public the vast amount of scientific knowledge they have acquired. Possibly this will only happen if and when a world government has been set up to control the scientific wonders which are now within our reach. Enough is known already to make most of our energy and transport systems obsolete—which may explain why the facts are being suppressed?

I have been able to check activity in other parts of the world by applying harmonic calculation to certain positions of latitude and longitude. It is not necessary to use the grid structure, as such, for some types of calculation once the harmonic process is understood. Eventually, when the whole grid has been plotted, the work will be much easier.

I must now correct an error which I have published in my previous two books. Some time after my second book went on the market I received a message from a friend of mine in Australia. He informed me that a member of the Australian Government research department urged him to "inform that chap Cathie that the scientists agreed with his harmonic unified field equation except for one symbol".

The equation in question was:

$$\frac{1}{G} = \left(2C + \sqrt{\frac{1}{2C}}\right)(2C)^2$$

Where G = Gravity acceleration harmonic

and C = Harmonic of the speed of light

It was obvious to me that the symbol they were referring to was I/G. Up to this stage in my research I had believed that the value of 2545.584412 was a harmonic of gravity acceleration of 25.45584412 grid feet/sec^2. I had arrived at this assumption by converting the normal gravity acceleration value commonly used, of 32/17 ft/sec^2, to what I thought was the grid equivalent of this figure. In the earlier stages of my research I had far less data to work on than I have now, and the assumption appeared to fit the facts I possessed at the time.

I had a closer look at the conversion factors I had used, and found that I had indeed made an error. The 2545.584412 harmonic does not appear to be directly linked with gravity acceleration although many other harmonic values can be derived from it as indicated (the most important being 144, 1152, 648 and 3928371).

It was now essential for me to find the true average value for gravity acceleration in grid terms and define its relationship to the unified equations I had discovered. It did not take me long to find the correct grid equivalent. Where it fitted harmonically into the equations, however, required two weeks of calculation and mental gymnastics.

The conversion factors for ascertaining gravity acceleration in grid terms are as follow:

One minute of arc is equal to 6000 grid feet, or 6080–6083 British feet. So an average conversion factor to convert British feet to grid feet would be to multiply the number by .9865987, or 6000/6081.5.

The grid time factor I discovered has stood up to scrutiny over the years and is based on 27 periods for one revolution of the earth. Normally we use 24 periods of one hour each. The 27 periods, I call 27 grid hours. A grid hour is slightly shorter than a normal hour, and is divided into sixty grid minutes, each of which is equal to sixty grid seconds.

Therefore for one revolution of the earth we have a standard time of 86,400 seconds as against a grid time of 97,200 grid seconds. The ratio is 8:9.

The physics books state that gravity acceleration varies

according to latitude on the earth's surface, and also with altitude, or distance from the centre of the earth. The variation at sea level from 0° to 90° latitude is equal to 32.087829 feet/second^2 to 32.257711 feet/second^2.

I decided to calculate the grid gravity acceleration at a latitude of 52.88°, which is 37.12° from the geometric pole. The 288 harmonic is evident here plus the harmonic of 3712, the reciprocal of which is 2693966 (2694). If we interpolate the standard gravity acceleration at this latitude as 32.2015425 feet/second^2 we can convert to grid gravity acceleration as follows:

$$32.2015425 \times \frac{6000}{6081.5} \times \frac{8}{9} = 28.239 \text{ grid ft/grid sec.}^2$$

We can now manipulate the grid gravity acceleration factor of 28.239 as a harmonic of 28239:

$$28239 \times 60 = 169434 \ (16944)$$

$$28239 \times 97200 = 274483$$

the reciprocal of

$$274483 = 36432$$

The harmonic of 169434 is associated with the mass of the proton in the atomic nucleus, and 36432 is built into the grid as a distance along the line of latitude between the corner aerial positions of the "polar squares" (3643.2) (see Diagram 1). As can be seen, the harmonics are evident when different time periods for the acceleration factor are considered.

In my second book I stated that the first glimmerings of how true space travel might be achieved came to me when I uncovered the clues that led me to the UFO grid which laces about our globe.

I was aware that my calculations were not precisely accurate—in the strict mathematical sense—but I could see that the system was based on space-time geometrics, and at least there was the best possible support for this: none less than the theories of Einstein.

Somewhere, I knew, the system contained a clue to the truth of the unified field which, he had postulated, permeates all of

existence. I didn't know at the time that this clue had already been found by scientists who were well ahead of me. I know now that they must have understood something of the grid system years ago. They knew that Einstein's ideas about the unified field were correct. What's more, for many years they had been carrying out full-scale research into the practical applications of the mathematical concepts contained in that theory.

We were told that Einstein died without completing his equations relating to the unified field theory. But in more recent times it has been said that he did in fact complete his work but that the concepts were so advanced that the full truth was not released.

The only way to traverse the vast distances of space is to possess the means of manipulating, or altering, the very structure of space itself; altering the space-time geometric matrix, which to us provides the illusion of form and distance. The method of achieving this lies in the alteration of frequencies controlling the matter-antimatter cycles which govern our awareness, or perception, of position in the space-time structure. Time itself is a geometric, just as Einstein postulated; if time can be altered, then the whole universe is waiting for us to come and explore its nooks and crannies.

In the blink of an eye we could cross colossal distances; for distance is an illusion. The only thing that keeps places apart in space is time. If it were possible to move from one position to another in space, in an infinitely small amount of time, or "zero time", then both the positions would coexist, according to our awareness. By speeding up the geometric of time we will be able to bring distant places within close proximity. This is the secret of the UFOs—they travel by means of altering the spatial dimensions around them and repositioning in space-time.

I decided to concentrate specifically on three harmonic values which appeared to have a close relationship with each other. Previously I had shown this connection and had truthfully pointed out that I did not know why the relationship was there at all.

The harmonic values which occupied my full attention:

1703—This was the four-figure harmonic of 170,300,000,000, which is the expression in cubic minutes of arc of the mass, or

volume, of the planet earth, and its surrounding atmosphere.

1439—A four-figure harmonic of 143,900 minutes of arc per grid second, representing the speed of light in grid values.

2640—This figure expressed in minute of arc values is built into the polar portion of the grid structure, as a geometric coordinate.

I found that when I matched these values harmonically the results were as follows. Zeros to the right-hand side can be ignored in this form of harmonic calculation:

1703
–264
1439

In other words the difference between the harmonic of mass and the harmonic of light was the harmonic of 264 (or 2640).

It was apparent that if my calculations were more accurately worked out it should be possible to find out just what the 2640 figure referred to.

After more calculation the following terms were found:

17025	Earth mass harmonic
–2636	Unknown harmonic
14389	Speed of light harmonic

Checking through some five-figure mathematical tables, I found to my surprise that 2.6363 is the square root of 6.95 (from the 1–10 square root tables). In harmonic calculation decimal points as well as zeros to the right or left of a figure can be ignored; so it could be said that the square root of 695 was 2636. I could perceive from this the first steps necessary to solve the elusive equation. I had established that 695 was the harmonic reciprocal of the speed of light, or 1/1439 subject to the accuracy of my calculations at the time. It was now possible to substitute algebraic values—although obviously a computer would be necessary to solve the true values to extreme accuracy.

17025	(earth mass)
–2636	square root of speed of light reciprocal
14389	(speed of light)

If C = The speed of light, and

M = Mass

Then $M = C + \sqrt{\frac{1}{C}}$

I had the first part of a unified field equation in harmonic values. To take the next step I first had to go back to Einsteinian theory, particularly the famous equation $E = MC^2$, where E is energy, M is mass and C the speed of light.

Einstein declared that physical matter was nothing more than a concentrated field of force. What we term a physical substance is in reality an intangible concentration of wave-forms. Different combinations of structural patterns of waves unite to form the myriad chemicals and elements which, in turn, react with one another to form physical substances. Different wave-forms of matter appear to us to be solid because we are constituted of similar wave-forms which resonate within a clearly defined range of frequencies—and which control the physical processes of our limited world.

Einstein believed that M, the value for mass in the equation, could eventually be removed and a value substituted that would express the physical in the form of pure energy. In other words, by substituting for M a unified field equation should result which would express in mathematical terms the whole of existence—including this universe and everything within it.

Einstein maintained that the M in his equation could be replaced by a term denoting wave-form. I had found a substitute for M in terms of wave-form of light. So the obvious step, to me, was to replace Einstein's M with the values of C found from the grid system. The results are as follows:

Einstein $E = MC^2$

Cathie grid $M = C + \sqrt{\frac{1}{C}}$

Therefore $E = \left(C + \sqrt{\frac{1}{C}}\right) C^2$ (Harmonic equation 1)

I now had a harmonic unified field equation expressed in terms of light—or pure electromagnetic wave-form—the key to

the universe, the whole of existence: to the seen and the unseen, to form, solids, liquids and gases, the stars and the blackness of space itself, all consisting of visible and invisible waves of light. All of creation is light.

It was now necessary to refine my calculations and attempt to discover a way to practically apply this initial equation.

The equation, using harmonics of single C values, is that from which an atomic bomb is developed. By setting up derivatives of the equation in geometric form, the relative motions of the wave-forms inherent in matter are zeroed, and convert from material substance back into pure energy.

This explained the workings of a nuclear explosive device, but it still did not yield the secret of space-time propulsion. The grid system which I discovered by the study of the movement of unidentified flying objects was harmonically tuned to this basic equation, yet a UFO does not disintegrate when it moves within the resonating fields of the network.

There had to be an extension of the equation which so far I had missed that would produce the necessary harmonics for movement in space-time.

In the polar areas of the grid the geometric values of some of the coordinates appeared to be doubled up. The coordinate of 2545584412 was doubled in the diagonals of the polar squares, with all of its associated harmonics, and in the resultant grid polar square the speed of light reciprocal harmonic of 6944 was incorporated in a harmonic of 26944. These particular co-ordinates are from the corner "aerial" positions to the geographic poles. It appeared that the factor 2 preceding the 6944 served to harmonically double the reciprocal of the speed of light.

I reasoned that a way to check this idea was to increase the values of C in the equation, and observe the changing harmonic of E to see what relative values might emerge. I thought at the time that a direct antigravitational harmonic might become evident, but my recent research has proved this line of thought to be incorrect. In terms of mathematical values I found what I was hunting for in the form of two more equations. In the case of one of the equations I erroneously believed that the derived harmonic value related to the reciprocal of gravity. I know now

that what I had hold of was an equation related to the magnetic field of the earth.

The second equation remains valid as I originally discovered it, although I have since found further evidence which relates the gravitational field to the harmonics of light and the earth's magnetic field.

The earth's magnetic field, as will be shown in the next chapter, consists of lines of force which move in opposing directions. Field A I found to consist of 12,261.7043 lines of force per square geodetic inch and field B to consist of 8,333.3333 lines of force per square geodetic inch. Therefore the resultant field-intensity one way was equivalent to field A minus field B, or 3928.371 lines of force. This I found to be the harmonic reciprocal of the grid coordinates 2545.584412.

Harmonic Equation 2

$$\text{Field (A – B)} = \left(2C + \sqrt{\frac{1}{2C}}\right)(2C)^2$$

Where C = 144000 – 3 G harmonic
= 144000 – (28.24 × 3)
= 144000 – 84.72
= 143915.28

G = Grid gravity acceleration

The speed of light in free space is 144000 minutes of arc a grid second and 3G (84.72) is equivalent to 169.44/2, a half-harmonic of proton mass, in the atomic nucleus.

Harmonic Equation 3

$$26944 = \sqrt{\left(2C + \sqrt{\frac{1}{2C}}\right)(2C)^2}$$

Where C = 144000 – 6G
= 144000 – 169.44
= 143830.56

In this equation it can be seen that the decrease in the speed of light harmonic is equal to six times the harmonic of gravity acceleration, which is also equivalent to the harmonic of proton mass. More work will have to be done to refine this concept

further, but the results appear to back up my belief that as the harmonic of light is fractionally decreased, the energy which is released is converted to form physical matter. (In this case, the formation of protons in atomic mass).

In Equation 1 I found that if C was made to equal 144000 — 28.24 (144000 — G), or 143971.76, then the resultant harmonic was 353 which is 2824/8, G/8.

From this we can get a glimmering of how an unidentified flying object is able to create a series of resonating frequencies which alter the physical properties within and around it, thus causing a change in space-time frames of reference, in relation to the earth or other planetary bodies. The resonating frequencies of light are modified by adding or subtracting harmonic multiples of gravity acceleration, according to the planetary body being approached.

My small calculator gave results accurate to four figures for Equation (1) 3530 (2) 3928 (3) 2694, which are quite acceptable considering that an average value for gravity acceleration is being used. Slight variations of gravity acceleration around a planetary body would have to be compensated for.

The harmonic value of 26944 derived from Equation 3 is found in many measurements in relation to the Great Pyramid, particularly the volume of the King's Chamber, and the length of the sloping sides from each corner to the apex (726 geodetic feet, the harmonic square root of which is 269444).

The harmonic of gravity acceleration and the harmonic of the resultant magnetic field strength of the earth appear to have a mathematical relationship as follows, although I am not aware of its full significance at the time of writing. Further work with calculators will no doubt expand all the relationships and open up many areas of research. What I offer in this book is basic information which can be built upon by minds more profound than mine.

Gravity acceleration 28239 ÷ resultant field strength 3928.371
= 718848

718848 × 2 = 143769

144000 – 143769.6 = 230.4

230.4 ÷ 2 = 115.2

1152 = harmonic circumference of all atoms.

It is possible that other harmonic multiples of gravity acceleration can be applied to the speed of light factor to create further space-time reactions. This line of research will be investigated in the future.

I do not profess to have anywhere near all the answers to the mathematical relationships. As my research has advanced over the years I have made a few mistakes which so far I have been able to correct when more information has become available. No doubt this process will continue as the years go by. The exciting part of it is that some of the mysteries of the universe are becoming understandable to laymen like myself.

Note: I have had great difficulty in calculating the exact theoretical position of the resultant grid pole C. All indications at this time show the position to be 864 minutes of arc from the geographic pole, but further work on a computer may prove my calculations to be in error. I would welcome a check on this by other researchers.

TWO

THE EARTH'S MAGNETIC FIELD IN RELATION TO THE GRID SYSTEM AND THE GREAT PYRAMID

THE FIRST BOOK that I ever read on the subject of unidentified flying objects was called *Behind The Flying Saucers* by Frank Scully, an American reporter. This was in the early 1950s and the factual information contained in it impressed me very much. Some years ago, I lent my prized copy to someone and never received it back—the fate of many books in the early years of my research. Last week I was lucky enough to obtain a small paperback copy from a very good friend in the United States and on second reading I came across some information which makes sense now that I have had a number of years of research with which to correlate the data.

According to Scully, a group of American scientists carried out a crash programme during the second world war years to study magnetism and all the allied branches of science. Most of the knowledge gained has never been made public, and it appears that this comparatively small group is now so far advanced in the field of electro-magnetism that they could well apply the knowledge in the construction of antigravity-type vehicles. Scully also states that the destructive forces of electro-magnetism have been mastered in the field of weaponry.

It was his comments on the magnetic fields of the earth that interested me most. Evidently a device called a magnetron was invented by a physicist by the name of Albert Wallace Hull, who was born in April 1880. This invention was brought to the fore in 1928 when it was discovered that magnetrons with split anodes can generate very high frequencies. Quoting Scully:

> Since then the magnetron has had many important applications. It depends on the fact that electrons can be ordered in their path by a magnet. In ordinary electron tubes the flow of electrons from the filaments to the plate is regulated by the charge on the grid. In the magnetron there is no grid, but the tube is in a magnetic field. As the intensity of the field increases

there comes a stage at which the electrons are curled back into the filament, and never reach the plate. At this critical point a slight change in the field produces a large change in the current carried by the tube.

The magnetron is especially valuable for producing high frequency oscillations used for generating ultra-short waves. The magnetron is a diode or thermionic tube having a strange axial cathode surrounded by a cylindrical anode. Its use as a magnetic prospecting instrument derives from the fact that in the presence of a magnetic field the electrons do not travel regularly from the cathode to the anode; instead they spiral around the cathode in circular paths, and after a critical magnetic field intensity is reached, the electrons will return to the cathode without reaching the anode. At this field strength the plate current will drop abruptly. The procedure in operating the instrument consists in decreasing the plate voltage on the diode until the voltage is reached at which the current falls off rapidly. The plate voltage at which this occurs is related to the critical field strength H by the relation H — 6/7200 V/R, where "R" is the radius of the anode.

(This equation is interesting when related to my own research because the value of 6/7200 is equal to .000833333. The square of this number is .000000694444, or the harmonic of the reciprocal of the speed of light).

In practice a compensation procedure is used wherein the field to be measured is nullified by a known field produced by a coil arrangement. The magnetron is affected by the component of the earth's field which is parallel to its axis. The instrument theoretically may be used to measure any components of the earth's field by suitable orientation.

The sensitivity of the tube may be increased through regeneration by passing the plate current through an additional solenoid. Interesting experimental results have been obtained by using magnetic alloy field pieces to increase the affected magnetic field.

The earth being simply a huge magnet, a dynamo, wound with magnetic lines of force as its coils, tenescopically counted to be 1257 TO THE SQUARE CENTIMETRE IN ONE DIRECTION AND 1850 TO THE SQUARE CENTIMETRE IN ONE DIRECTION (EDDY CURRENTS), indicates that natural law has placed these

> lines as close together as the hairs on one's head. And yet they never touch or cross each other if let alone. If done so, by accident, the catastrophe would spread like a searchlight and destroy everything in its path.

(I agree with this statement up to a point, as I believe that matter is actually produced by the crossing of these lines of force).

> An original error of say a foot, at its source would burn everything in its path up to 20 miles and a mile and a half wide in ten thousandths of a second. If left to encircle the world the original flash would have banded the globe ten times in one second, FORTUNATELY AS A WEAPON OF DEFENCE THIS DESTRUCTIVE FORCE HAS BEEN MASTERED.
>
> The spectroscope shows that there is an enormous magnetic field around the sun, and it is the present conclusion of the best minds that magnetic lines of force from the sun envelop this earth and extend to the moon, and THAT EVERYTHING, NO MATTER WHAT ITS FORM ON THIS PLANET, EXISTS BY REASON OF MAGNETIC LINES OF FORCE.

This I agree with, according to my own research. We are taught in our schools and universities that the magnetic field passes through one magnetic pole, then through the body, and out the other magnetic pole. I disagree with this explanation. I believe that the magnetic lines of force enter the body at the poles, then carry out a looped path through the body before passing out the opposite poles. As pointed out by Scully, the lines of force move in both directions. The flow is not in one pole and out the other, but in both poles, and out both poles, although the field intensity both ways is unbalanced.

If we can visualise one line of force so that we can trace out its path we can form an analogy by imagining it to be similar to a piece of string. First of all we make a loop in the piece of string. Now imagine it being fed through a fixed position with the loop remaining stationary relative to a fixed point. With the length of string as the axis we can now make the loop revolve in a path which is at 90° to the movement of the string. The loop in fact would trace out a spherical-shaped form in space.

The lines of force of the magnetic field would form a lattice, or grid pattern, due to the spin of the planetary body. A good analogy would be an ordinary machine-wound ball of string.

The length of string has taken on the form of a ball, and at the same time has formed a crisscross pattern. If we again visualise this as a physical body being formed in space then we can now imagine a small vortex being created at all the trillions of points where the lines of force cross each other in the lattice pattern. Each vortex would manifest as an atomic structure and create within itself what we term a gravitational field. The gravitational field in other words is nothing more than the effect of relative motion in space. Matter is drawn towards a gravitational field, just as a piece of wood floating on water is drawn towards a whirlpool. The gravitational fields created by the vortexual action of every atom would combine to form the field of the completed planetary body.

The world grid that I speak of is the natural grid that is formed by the lattice pattern of the interlocking lines of force.

The density of the earth's magnetic field is the most important piece of information in Scully's book. The unbalanced field of 1257 lines of force per square centimetre in one direction and 1850 in the other does not tell us very much in itself. But we use the information to calculate the field strength over an area which has a harmonic relationship with the unified fields of space, and if the basic information is correct, we should find some mathematical values of great importance.

The basic unit for harmonic calculation is the geodetic inch, or one seventy-two thousandth of a minute of arc, one minute of arc being 6000 geodetic feet. If we calculate the field strength for one square geodetic inch, the field density is 8,333.3333 lines of force one way, and 12261.7043 the other way. The combined field density is equal to 20,595.0376. Allowing for very slight variations in the conversion factors, we can say that the combined field strength is very close to 20,600 lines of force per square geodetic inch. The difference in the field strengths, or 12261.7043 minus 8333.3333 is equal to 3928.371.

These calculations show us several things:

1. The field strength one way of 8333.3333 lines of force. As shown the square of 8333.3333 equals 694444, the speed of light harmonic reciprocal.
2. The difference in the field strengths of 3928.371. This value is harmonically equal to the reciprocal of 2545.584412 (.03928371), the distance in minutes of arc from each grid

pole to the corner aerial positions of the "polar squares". The mathematical associations with atomic structure, and the speed of light have been demonstrated.

3. The combined field strength of 20595.0376 20600-lines of force per square geodetic inch. The harmonic of 206 has a direct relationship with the geometric construction of the Great Pyramid. The King's Chamber in particular is built according to this harmonic. (The width is 206 geodetic inches and the length is 412 geodetic inches).

The area of the base of the Great Pyramid also shows an affinity with the earth's field density. The area of the pyramid base without hollowing is equal to 583,200 square geodetic feet, which is equal to 83,980,800 square geodetic inches. If we multiply that by the field strength of the earth, one way, of 12261.7043 lines of force per square geodetic inch we have a value of 1.029747736^{12} lines of force covering the area. If we double this figure we have again 20594954 or close on 206 harmonic.

We can see again, after reading Chapter Eight on the Great Pyramid, the relationship of the earth's magnetic field, and its geometric structure. The harmonic values of 103 and 206 are evident in several places.

I believe that this information points the way to the construction of an antigravity machine.

THREE

PYTHAGORAS AND THE GRID

AFTER PUBLISHING my discovery of the world grid system I soon came up against opposition from the academic world of the universities. Much derisive comment was made at various meetings, and the main objection appeared to be that I had used angular measurement of degrees and minutes of arc upon which to base my values of universal measurement. It was also argued that a harmonic value to base 10 was not valid as a universal multiple, as any other number, such as 12, could be employed just as effectively if my theories were correct.

At the time I could only counter these attacks on my work by pointing out the fact that I had endeavoured to make use of other values in my calculations for this very reason. I had found through trial and error that only angular measure in degrees and minutes of arc, in multiples to base 10, could be utilised to set up a system of universal harmonics. I found that this method was the only possible way to measure the harmonic relationship between light and matter regardless of the size of the body in question, be it an atom or a mass the size of Jupiter.

I also suggested that the critics should set up a system such as mine by using other basic values and harmonic equivalents if they were so sure of their ground, and to my knowledge this has never been accomplished with any success. The academics maintained that the division of a circle into degrees and minutes of arc was a random decision made by mathematicians in historical times and was therefore a purely arbitrary method of measure. The division, according to them, could just as well have been into any number of equal parts, depending on the whim of the mathematical body which set the standard. This naturally would make all my work completely valueless.

I continued to maintain that the division of the circle *must* have been made due to considerations of a geometric nature, coupled with that of natural law. All the work I had done to date

indicated to me that the mathematicians of old had a knowledge of the universe which we are only once again beginning to understand.

The final solution to this argument could be overcome only by the discovery of a geometric connection between the harmonics of light and the harmonics inherent in the division of a circle. As I had based my light values on minute of arc measure there must be some type of geometric arrangement which would tie them together.

This was always in the back of my mind during the reading of many research books and finally I came across something which I believe will answer the critics. The friend who came to my rescue was none other than Pythagoras himself, a man of great stature and forceful personality who lived in the sixth century BC. He travelled extensively to enlarge his mathematical knowledge and was said to have gained much information from the priests of Zoroaster, who had in their possession the mathematical lore of the Mesopotamians. He founded a semi-religious, or mystical, cult based on mathematics, round about 540 BC in the township of Crotona, in southern Italy. He taught his disciples to worship numbers, the main idea being that number is the essence of all things, and is the metaphysical principle of rational order in the universe.

He discovered the mathematical relationships of the musical scale and the connection of musical harmony and whole numbers. He firmly believed that all harmony and things of nature can be expressed in whole-number relationships. Even the planets in their orbits, according to him, moved in harmonious relationship, one to the other, producing the so-called "music of the spheres".

The Pythagoreans explained the elements as built up of geometrical figures. One of the most interesting of these was the dodecahedron, which will be discussed in Chapter Seven. That particular figure has locked within it a great deal of information on the geometrical nature of the universe. My first introduction to Pythagoras however was in the discovery that the humble right-angled triangle, with sides to the ratio of 3, 4 and 5, was the key to the relationship of the speed of light, to the circle.

The clue to this was found on page 62 in John Mitchell's book *The City of Revelation*. He was discussing sacred numbers and

referring to the problem of squaring the circle. The suggestion was that the relative dimensions of the earth and the moon indicated an answer and that the same source provided the sacred numbers of the canon.

He demonstrated that if the circles of the earth and the moon are placed tangentially to each other and produced in their correct proportions, then each framed within a square, the geometric figure thus produced successfully squares the circle. With an earth diameter of 7920 miles and that of the moon 2160 miles, the perimeters of the two squares are respectively 31680 miles and 8640 miles. The radii of the earth (3690) and moon (1080) in combination amount to 5040 miles. This, according to Plato, is a mystical number. It turns out that the circumference of a circle struck from the centre of the earth and passing through the centre of the moon would very closely measure 31,680 miles which is also equivalent to the perimeter of the square containing the earth.

Mitchell then went on to state that if the outer corner of the square containing the moon is joined to the corresponding corner of the square containing the earth, the triangle thus formed has sides of 2160, 2880 and 3600 miles. If divided by their highest common factor, 720, these numbers become 3, 4 and 5. He follows on to say that "confronted with facts such as these, it is scarcely possible to avoid the conclusion, orthodox in every age but the present, that the cosmic canon, inherent in the solar system as in every other department of nature, *was revealed to men not invented by them*".

It was obvious to me that from these facts another extremely interesting conclusion could be arrived at. The various geometric relationships of the 3, 4, 5 triangle are many and varied, as can be seen by a glance through any standard geometry book. But the most important of all cannot be found in any ordinary publication.

As demonstrated in other sections of my work, the pure harmonic of the speed of light is 144. If we divide this by two, to find the harmonic of one half-cycle, or half-wave, the answer is 72. If we now apply this to the Pythagoras right-angled 3, 4, 5 triangle and extend each side in this ratio, then the figure will now have sides of 216, 288 and 360 units.

The harmonic proportions thus derived are equal to:

216 = 21600 = minutes of arc in a circle

360 = 360 = degrees in a circle

288 = 144 × 2 = 2C, where C = speed of light.

It appears from this that the harmonic of light has a very definite relationship with the geometry of a circle, and that the early mathematicians were fully aware of the fact.

If a triangle in this proportion is laid out in minutes of arc upon the surface of a sphere, then the combined angles formed by the corners of the triangle and the centre of the sphere are:

216
360 } minutes
288

864 minutes = 14.4 degrees

This again creates a harmonic in sympathetic resonance with the light factor of 144.

Can the critics still deny that the geometry of matter is directly related to the harmonic interweaving of light itself? There is no substance, in the absolute sense. We live in a reality of unreality; all is an illusion and the stuff that dreams are made of. Our physical world is nothing more than a resonating ball of light and shade.

FOUR

MATHEMATICAL VALUES OF INTEREST

IN MY SECOND BOOK, *Harmonic 695*, I showed the various steps I went through in my research which eventually led me to a unified equation based on the harmonic of the speed of light, and the Einstein equation $E = MC^2$. The equation indicated to me that all the physical substances in the universe were formed from the harmonic frequencies of light in various interlocking geometric forms. All matter, be it a star, a planet, or the structure of the atom, is formed by the harmonic resonance of light.

A very rough analogy of how light is individualised into a physical substance from the universal matrix, would be to liken the universe to a vast ocean. If a vortex or whirlpool is created in the ocean, then a small portion of it has been transformed into something quite different from the main mass. The area enclosed by the vortex operates under a different set of geometric laws. The change in state is caused by a spiralling motion being imparted by the influence of other forces.

I believe that the forces which cause a vortex to form in the universe matrix are manifested by the interaction between the universe and anti-universe. In other words the interaction, or pulsation, between matter and antimatter causes the creation, or dissolution, of substance. This idea conforms with the "steady state" theory of the universe. Many scientists believe that matter is being continuously created and destroyed, maintaining a constant supply of material in the physical universe.

Is it possible that light reciprocal harmonics from the anti-universe interact with the pure light harmonics of our physical universe to form resonances which create matter? If this is so then we must look for the reciprocal light harmonic of 6944 within the geometric structure of spherical mass formation in all parts of the universe, If this applies to the largest planet, or star, then it must also apply to the spherical structure of the atom.

The geometric or universal value by which we can measure

spherical bodies, regardless of size, is angular measurement. The constant factor for the circumference in all cases is 360 degrees, or 21,600 minutes of arc. In respect to the earth we call the surface distance of one minute of arc one nautical mile, but the actual physical distance would naturally vary with the size of the body.

If we consider the diameter of all spherical bodies to be also measured in units of arc values, equal to those of the surface, then we find that the constant value for diameter is 6875.493542. This could be termed the harmonic diameter for all spherical bodies. To bring this body into being from the universal matrix, vortexual action must be initiated and the body built up from fundamental particles. We would expect some sort of rarefied gaseous stage at the periphery of the body graduating to a more dense atomic structure, until a solid body manifests which gets much more dense towards its centre.

From this we see that in our hunt for the light reciprocal harmonic which actually creates the spherical body, we must not only consider the solid body itself but also the rarefied gaseous, or atomic particle, envelope around it, as this also has mass.

If we take the earth as an example we find that many different layers extend outward from the surface, getting increasingly rarefied with altitude. First of all the troposphere, where three quarters of the bulk of the whole envelope is concentrated. This consists of 78 per cent nitrogen, 21 per cent oxygen, 0.9 per cent argon, 0.3 per cent carbon dioxide, with traces of several other gases plus copious quantities of water vapour. Next is the stratosphere and mesosphere, which extend up to about 50 miles. The stratosphere consists in part of ozone or heavy oxygen formed by electrical discharges, or strong ultra-violet rays, passing through ordinary oxygen. At about 50 miles, up to between 350–600 miles, is the ionosphere, where X-rays and ultra-violet rays from the sun ionise the rarefied air. This produces electrically charged atoms and molecules, together with unattached electrons. This area contains only 0.001 per cent, by weight, of the atmosphere. The outermost layer is the exosphere, where sub-atomic particles are found, plus a 900-mile layer of thinly dispersed helium surrounded by a layer of hydrogen that extends 4000 miles into space. The atoms are so

far apart in this area that they very seldom collide, which gives some idea of the density.

As can be seen from this, if my theory is correct, hydrogen is the first type of material to be manifested from the universal substance; then the heavier gases close to the earth's surface; and finally the solid matter of the earth itself.

The geometric harmonic diameter of the earth could then be extended to encompass the main mass of the surrounding atmospheric envelope to see if the harmonic reciprocal of light is evident.

If we add the harmonic equivalent of 6875.493542, namely 68.75493542, to the diameter to encompass the atmosphere we get

6875.493542
68.75493542
6944.24847742

As 6944 is the harmonic reciprocal of the speed of light in free space, it appears possible that spherical bodies are in fact formed by some sort of vortexual resonance which causes precipitation of matter. In the initial stages of formation are the rarefied gases; then, as the harmonic vibration intensifies to the point that it matches that of the light reciprocal, the more dense substances are built up. Finally at certain harmonic values solid substances occur.

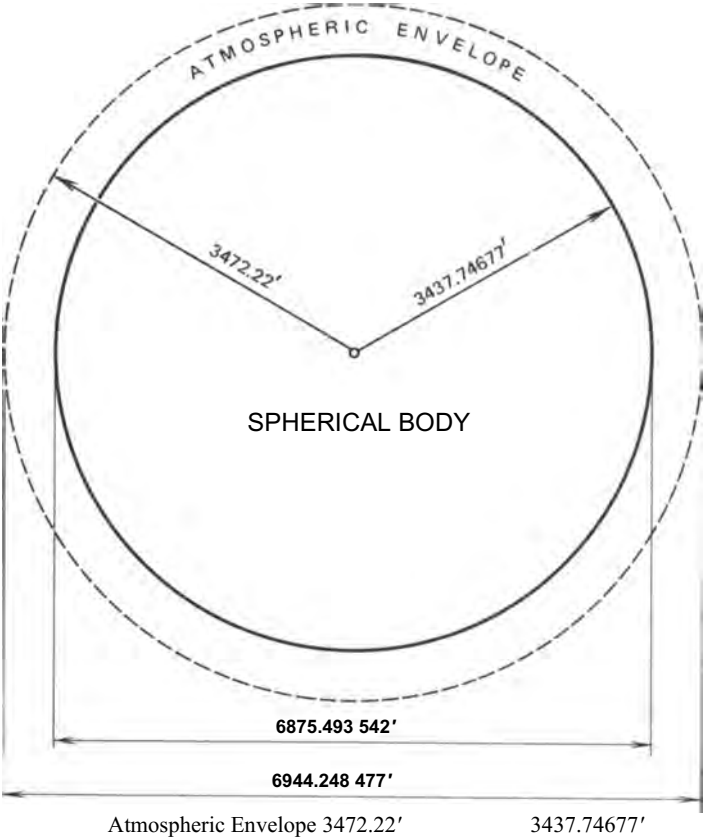
If this is so then, in my theory, every spacial body must have some sort of gaseous, or ionic, envelope surrounding it. I should imagine that in the case of the planets, the type of gaseous envelope would depend on the orbital radius from the central sun or star. The orbital values would set up secondary harmonics which would modify the geometric makeup of the surrounding atmosphere.

It follows that all planets in the universe that have similar size and orbital radius to earth would have the same type of atmosphere and other characteristics. Accordingly there must be millions of planets which could be habitable for man. The ratio of the diameter of a planet to the height of the main bulk of its atmosphere would be 200:1.

Shortly after I published my second book I had a visit from an Australian who passed some information to me in regard to

DIAGRAM 4

Showing that all spherical bodies have a harmonic affinity with the harmonic reciprocal of the speed of light.



Atmospheric Envelope 3472.22′ 3437.74677′
Spherical Body 6875.493542′ 6944.248477′

Harmonic of the speed of light = 144/harmonic reciprocal = 6944. In geometric measurement the circumference of all spherical bodies is 360 degrees, or 21,600 minutes of arc. The diameter of all spherical bodies, in the same minute of arc units, can be expressed as a constant of 6875.493542 minutes of arc. If this value is then considered as a harmonic, and extended by the equivalent harmonic of 68.75493542, the resultant value becomes 6944.248477; the light reciprocal.

The application of this harmonic diameter to all planetary bodies in space would account for the mass of the planet and the surrounding atmosphere. The constant of 6875.493542 minutes of arc for the diameter, and a constant of 34.377468 minutes of arc for the height of the atmosphere above surface level. (Roughly 39.5 statute miles. This would extend to the mesosphere if applied to the atmosphere of the earth. Above this level would be the ionosphere and the exosphere).

straight and curved line geometry. He was a most intense sort of chap and I still don't know the reason behind the visit, or the connections he has in his own country, but the information was most interesting. He left me quite a few notes, saying that I could make use of them as I saw fit. Possibly I can use the data in some future research but a small portion I will quote here:

> Straight and curved line geometry; the globe and the disc.
>
> By choosing a single universal measurement unit we are able to convert directly from units of length to angles of geometry and back again. Taking the earth as a globe we see it has a circumference of 21600 minutes of arc (or nautical miles) and a diameter of 6875.493 minutes of arc. It is stated in this theory that every globe has an equivalent disc which is equal to it. The best way to imagine this equivalent disc is to liken it to a globe which has been put into a giant press and squashed flat at the equator.
>
> What we are interested in is the ratio of the dimensions of the globe; radius, diameter, circumference etc., to those of its equivalent disc. It is found that the diameter of the disc is equal to one half the circumference of the globe, and the circumference of the disc is one half of *pi* times that of the circumference of the globe.
>
> As a globe the circumference = 21600 nautical miles
>
> As a disc the diameter = 10800 nautical miles
>
> As a disc the circumference = 33929.2 nautical miles

The circumference as a disc is 1.5707963 times the circumference as a globe, or half of *pi* (π).

This is a very interesting fact because my visitor is saying that the earth grid, as I discovered it, seems to be based on the possibility of one geometry switching over to another geometry. The idea of gravity being a force appears to be a fallacy. In reality it seems to be simply a state of tension, or a ratio between the two geometries. I found in my earlier research that this geometric harmonic of 33929.2 was one of the factors in the positioning and detonation of an atomic device (given as a round figure of 3393 in *Harmonic 695*).

Next let us look at measurement itself. We are led to believe

that all systems of measurement, as used today, are purely arbitrary values set up by man himself and therefore a fairly haphazard way of finding quantities or dimensions of things. British measurement for example was purported to be a jumble of bits and pieces related to man's own dimensions. The inch was an eighteenth of a cubit, or the breadth of a thumb. The cubit was measured from the point of the elbow to the outstretched tip of the middle finger. The foot was about two-thirds of a cubit, four palms, twelve thumbs, or sixteen digits. The digit was the width of the middle of the middle finger. The meridian mile was 4000 cubits. I'm not sure where all these ideas originated, but I believe them to be pretty ridiculous, even though they are taught in our schools today. How many human beings, taken at random, would conform to these particular dimensions? We would have some peculiar-looking buildings around our cities if we standardised the construction measurements on the thin, fat, short or tall citizens who lived within them.

I consider that there is evidence which suggests British measurement was originally based on geometric concepts. If this can be proved then it follows that this method of measurement could be used in a universal sense, to harmonise structures to natural law. The first indications of this can be seen in the design factors of the Great Pyramid as demonstrated in Chapter Eight.

A pyramid, or geodetic inch, is equal to 1.0011 British inches. Could it be that in ancient times a pyramid inch and the British inch were equal to each other and somehow derived from a geometric value associated with the light harmonic of 144? If so, then our ancestors were scientifically advanced to a much greater degree than we give them credit for.

In 1635 the author of *Sea-Man's Practice*, Richard Norwood, using a sextant of more than five feet in radius, made observations of the sun at two points which were 9149 chains apart and found a value of 69.5 statute miles for one degree of latitude. In 1671 the French astronomer Jean Picard, by means of trigonometry, was able to obtain a fairly accurate value of 69.1 statute miles. Newton made use of this value to complete his general theory of gravitation.

The figure generally taken for the circumference of the earth at the equator is 25,000 statute miles. If we divide this by 360 to

find the number of miles in one degree the answer is 69.444. Taking everything else into consideration I'm sure this is not just coincidence. The value of 69444 is obviously the reciprocal of the speed of light harmonic.

A serious study of the origins of British standards of measurements could be of extreme interest and possibly many of our history books would have to be rewritten as a result.

The measure of one geodetic foot, equal to one six-thousandth part of a terrestrial minute of arc, which is equal to one grid foot, was proposed in early 1700 by Cassini. If this had been the standard accepted it would have been equal to the ancient Greek foot, which was five-sixths of a remen. The Parthenon was laid out to this unit.

The French metre could be taken as a fairly close scientific method of measuring. The standard was taken as one ten-millionth part of the length of a quadrant of the meridian measured through Paris. This was established reasonably accurately in 1798 and is the equivalent of 39.37 British inches. As British measurement itself appears to be based on a geodetic equivalent, this value of 39.37 could be close to a harmonic equivalent of the resultant earth magnetic field (Chapter One). Some work in this direction might prove to be worth while. The British and metric systems could probably be complementary to each other.

I decided to check with my calculator and see what value could be obtained if the 90-degree quadrant of a meridian was treated as a geometric value of 5400 minutes of arc. When divided by 10,000,000 the answer came to 38.88 geodetic inches. Not much showed up here so I halved it to obtain 19.44 geodetic inches, or one ten-millionth part of 45 degrees. This showed evidence of a harmonic affinity with the gravity reciprocal. If treated harmonically as 19.44 degrees (or 19.44 inches × 72000) the radian is equal to .339292; harmonically equivalent to the circumference value of the earth as a disc. Again harmonically if we divide 21600 by 19.44 we get 11111.111111 which appears to have something to do with unity, but is certainly a strange number. Six times spiral *pi*, or 6 × 3.24, will also give a value of 19.44. One third of the height of the Great Pyramid of 5832 geodetic inches is equal to 1944 as shown in Chapter Eight.

The height of the Great Pyramid is 486 geodetic feet, which is 1944 divided by 4. A harmonic association with time is also indicated. The number of seconds in a grid day is 97200. The harmonic of time in seconds is therefore 972; or 1944 divided by 2. It appears that the value of 1944 is of great significance.

Another ancient measurement of interest is the megalithic yard of 2.72 British feet, discovered by A. Thom. The unit is considered to be of Egyptian origin as it is found in the geometrical canon of Egyptian measures. John Mitchell in his book *The City of Revelation* brings out another point in connection with this unit: "All over the world the traditional units of length, area, weight and capacity are related to each other and derive from ONE ORIGINAL CANON OF COSMOLOGY. Two such are the English mile and the unit which now only survives in the East as the 'pu' of Indo-China, its value given on page 358 of L. D'A. Jackson's *Modern Metrology* as 2.72727 miles, the fraction recurring. Without previous knowledge of this unit its former existence in Britain was deduced by Mr J. F. Neal from his analysis of the intervals between ancient sacred sites, who called it the 'megalithic mile' on account of its ratio to the mile being virtually the same as that of the megalithic yard to the foot. There are 14,400 feet in one megalithic mile".

He points out also that the ratio between the dimensions of the earth and the moon is 10:2.72727. The key point here is that one megalithic mile is equal to 14,400 British feet. Again we have the harmonic of the speed of light, 1440, connected with British measure. There are also mathematical indications that the unit could be connected in some way with the exponential function "e" which is taken as 2.7182818. The mathematicians could delve into this area with possibly interesting results. If it can be proved that English measure was the only form of calculation that was harmonically associated with the structure of the universe and geodetic measure, then a crime of great magnitude would be committed if this system were lost to the world. Right now the pressure is on to force the metric system on all countries and if this is finally accomplished the true system of measure will be hidden away, and only be made use of by the initiates.

I believe a new system could be devised by the combination of geodetic and metric measure. The standard geodetic inch and foot could be retained and incorporated into a measuring

system which has a base of 10. A basic unit could be 120 geodetic feet, which would accommodate the harmonics of ten and twelve. The unit would be 1440 inches long which would give the direct harmonic of light. Another way would be to use a basic unit of 1.2 geodetic inches, ten of which would equal one geodetic foot.

A geometric figure which also indicates a remarkable relationship between the harmonic of light, the circle, and a system based on multiples of 10, is the decagon (see diagram). If a decagon, or ten-sided figure, is inscribed within a circle then the subtended angles are equivalent to 144° (the light harmonic). The angles between the sides and the radius of the circle at each intersection are all 72°, or half the light harmonic.

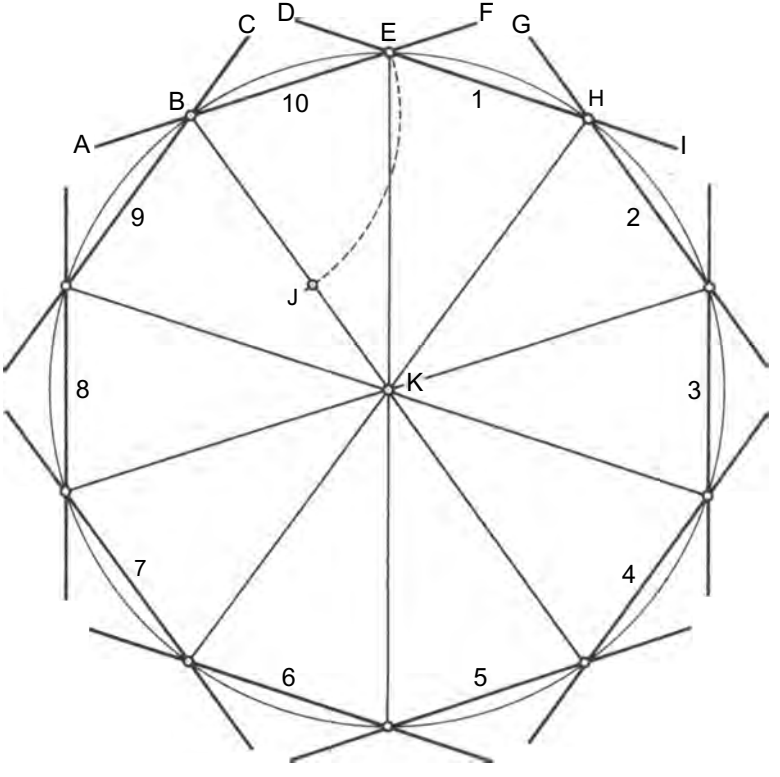
Another curious fact gleaned from my geometry books is that if the side A of a regular decagon, inscribed within a circle of radius R is laid off along that radius, the latter will be divided into the golden section (a ratio of 1:1.618, found to be incorporated into the structure of many ancient buildings). Our ancestors must have known something!

The next interesting figure to have a look at is the spiral. When we really think about it there is no such thing as true circular motion at any point of the universe. This is due to the relative motion of all physical bodies in space. Although we may describe a perfect circle relative to our position on earth, the instrument used to describe such a circle in actual fact would carry out a spiralling path in relation to the universe as a whole. When we think of all the different movements we are subject to we realise that it is virtually impossible to calculate the path taken by a physical body when it moves from one spacial position to another. For instance, we would have to take into account the actual movement in relation to the earth, the spin of the earth, the movement of the earth around the sun, the sun's movement within our galaxy, galactic movement and so on.

From all the research I have done so far I have come to the conclusion that during the formation of matter the wave-forms from which physical substance is manifest move through spiralling paths of 371.1340° cycles. These cycles set up a resonating pulse which gives a harmonic reciprocal to the value of 269444 discussed in other sections of this book. The value for

DIAGRAM 5

THE HARMONICS OF A DECAGON



The decagon, or ten-sided figure, indicates a direct relationship between light, the circle, the harmonic power of 10, and the golden-section ratio of 1.618.

The subtended angles A–B–C, D–E–F, G–H–I, etc. each are equal to 144°, giving a direct relationship with the harmonic of the speed of light. Each inner angle K–B–E, K–E–B, K–E–H, K–H–E, etc. is equal to 72°, or half the speed of light harmonic.

If the side of a regular decagon inscribed within a circle is laid off along the radius, the radius will be divided into golden section. This is shown in the diagram by laying off the side B–E along the radius B–K. The radius is then divided into the ratio of 1:1.618.

pi in relationship to the radius of the spiralling motion is difficult to calculate due to the multi-dimensional movement. But I believe the value to be 3.24; the value of two *pi*, which would allow for the double cycle of matter and antimatter, would then be 6.48. The square root of this figure is 2.545584412, which is harmonically equivalent to the value built into the polar square section of the world grid system.

The world grid system itself is set up in harmony with the natural spiralling motion of the wave-forms in physical substance. The main poles of the two interlocking grid systems on the earth's surface are placed at intervals on the natural spiral which coincide with the harmonics of the reciprocal of light, and a value which appears to be associated with the cross-sectional area of the atom.

The north and south poles of one grid are displaced 694.4 minutes of arc from the north and south geographic poles. The second interlocking grid has poles which are displaced 1054.4 minutes of arc from the geographic poles: the difference in latitude being 360 minutes, or six degrees. The two grid pole positions, north and south, fall on a spiralling curve which commences at the north and terminates at the south geographic pole. This is probably very hard to visualise without the appropriate demonstration models, but suffice it to say that the harmonic points on the natural spiral cause sympathetic resonances to be set up which combine with those of light, gravity and mass.

In *Harmonic 33* I demonstrated the relationship of the position of Wolf Creek crater in north-western Australia to the world grid system. Wolf Creek crater is a massive so-called "meteor crater" similar to the Arizona crater in the United States. Although many scientists believe that these craters, and many others like them round the world, were gouged out by giant meteors striking the earth, to date no large meteor fragments have been discovered. A fairly good scattering of a certain type of iron has been found in the vicinity of some of the holes, but the combined mass of the fragments would be only an infinitesimal fraction of the bulk required to blast out holes of such size. The presence of this pure iron could point to other interesting possibilities which will be discussed in a later chapter.

I indicated in my earlier work that I believed the craters were

formed by explosions from below the surface. This would have been caused by the instability of spiral geometrics within the grid system. This could have been brought about by interference with the system in the ancient past, based on advanced scientific knowledge. All the evidence being compiled in modern times indicates that at some time round eleven to twelve thousand years ago a major catastrophe occurred which caused worldwide devastation. Some of this evidence indicates most strongly that atomic-type explosions occurred at various positions on the earth's surface. An ancient war perhaps? Or were the scientists of the day overreaching themselves and carrying out experiments with the structure of matter, without being in complete control of the resulting effects?

I said in my first work that "the force fields of the grid were naturally distorted when this happened and stresses were set up in various parts of the system. As the earth moved through space, various points in these areas of strain have lined up geometrically in relation to the solar system as a whole; the MC^2 section of the grid formula has possibly been fulfilled and a resulting explosion has taken place, with the known devastating results".

I believe the evidence I have now gives further strong support to this theory. The physical position of Wolf Creek crater is a cold hard fact which cannot be disputed. Let us now have a close look at the geometrics of this position. The latitude which falls within the crater according to the charts is 19.177408°, the longitude 127.8066°.

Dealing with the latitude first, it is found that 19.177408° is equivalent to 1150.6448 minutes of arc. If this geometric harmonic is divided by 8, the number of electrons in each atomic shell, the value is 143.83056. It has been demonstrated in other sections of the book that the harmonic value of 143830.56 is the resultant angular velocity of light when energy has been released from the formation of matter.

144,000 – 169.44 = 143,830.56

Where: 144,000 = Angular velocity of light in minutes of arc per grid second in free space.

169.44 = Harmonic of proton mass.

143,830.56 = The resultant angular velocity of light after matter formation.

It appears in this case that the formation process has been reversed and that the geometrics of the latitude have been such that harmonic resonances have been built up within the wave-forms constituting the physical substance at the crater site. When the resonance became critical the geometric lock in the wave-forms was broken, with a resultant explosion which formed the crater. Much the same system is used to detonate an atomic bomb. The only difference here is that the initial cause of the instability is unknown.

In the case of the longitude geometric I had a bit of a problem. Initially I had a set of values which seemed to be valid, and had actually written them up for publication, but on double-checking I discovered some small discrepancies which caused me to doubt my earlier deliberations.

I checked and rechecked the map longitude, and carried out many calculations which resulted each time in harmonic values which were close to what I wanted, but not accurate enough to explain the complete disruption of matter. The only conclusion that I could come to finally was that the longitude position shown on the maps was in slight error. (This has been found in several cases with maps which were produced before the advent of earth satellites).

Photographs taken from space have shown that many positions on the earth's surface have been anything up to two miles in error, according to longitude. Because of this I believe that the longitude, according to map reference, is approximately one minute of arc in error in relation to Wolf Creek crater. This is, of course, only tentative until a star survey can be carried out to ascertain the absolute position. Latitude can easily be computed, but longitude requires a much more difficult series of calculations.

The longitude according to the maps is 127.8066 degrees. As calculations can only be made in arcs of 90 degrees then this angle must be subtracted from the full value, leaving 37.8066 degrees. This converted to minutes of arc equals 2268.396 minutes.

This indicated the first clue that the longitude line was in

error, as it is only necessary to shift the longitude approximately one minute of arc to the east to bring the geometric harmonic to 2269.44, which incorporates the 26944 harmonic found from the unified equations (Chapter One).

The resultant angle for computation would now be 37.82407407° which has a co-tangent of 1.288. This double combination of resonance factors, coupled with the latitude value, would without a doubt cause a massive explosion.

Only a very careful survey of the site will confirm my theoretical investigations, but I feel confident that my computations will be found to be very close to the actual values.

FIVE

THE ATOMIC TABLE OF ELEMENTS AS A HARMONIC SERIES

NATURAL LAW IS NOT ERRATIC. The universe does not rely on chance to manifest within itself the physical substances which we perceive, and call reality. A very strict and ordered system of mathematical progressions is necessary to create the smallest speck of matter from the primeval matrix of space.

During my years of research into the complexities of the earth grid system I have gradually built up a picture in my mind of the possible geometric combinations necessary to form matter from resonating, interlocking wave-forms. My limited abilities in the various academic fields have made this task a taxing one at times, but I think I have discovered how to apply the original values, published in my first two books, in a practical mathematical sense, to build up a model which demonstrates the harmonic formation of matter.

This model indicates to me that the number of individual elements to be found in the universe will be 144. Each of these elements will have, in theory, six isotopes, which will make up a completed table of separate substances numbering 1008. An isotope is an atom of the same element which has a different nuclear mass and atomic weight.

Mathematically, the progression would create 144 octaves of separate substances giving a theoretical value of 1152. The difference between the total number of substances (1008) and the harmonic value in octaves (1152) would be 144, the light harmonic. The table of elements, in octaves, would create a cycle which would be in perfect resonance with the harmonic circumference of every atom from which it is constituted. It will be demonstrated that the harmonic circumference of every atom is 1152 units.

The harmonic values which create the geometric structure of matter can all be derived from the basic harmonic of the speed of light, 144. I have shown in Chapter Four how all the spherical

bodies in the universe are precipitated from space by resonances tuned to the reciprocal harmonic of light (6944). This applies to an atom and to the largest of planetary bodies, as the geometric harmonic diameter of any sized sphere has a constant harmonic affinity with the light reciprocal.

Once the precipitation of physical matter has occurred, the buildup of the substances we know as the elements takes place, according to a very well-ordered mathematical sequence. Light-waves, guided seemingly by superior intelligence, form intricate interlocking grid patterns which graduate from the simple to the more complex, as the elements from hydrogen, at the lower end of the scale, to element 144, come into being.

When we think of reality we must think of mass in relation to any physical manifestation, and the smallest particle of physical matter that we are aware of is the electron. Therefore, electron mass must be the starting point in our quest for a feasible theory to explain the structure of matter. The physics books give the best experimental value for rest mass of 9.11×10^{-31} kg for the electron, (9.2×10^{-31} in some physics books) and all modern-day calculations for mass and energy have a relationship relative to this figure. To form the basis for a harmonic series we must find a mass number for the electron which can be derived directly from the harmonic of light, 144.

The mathematical analysis I carried out on the Great Pyramid gave me the first clues upon which to base a unit for electron mass that would show connecting relationships throughout the atomic scale. The theoretical figure proved to be 9.24184 units. This was a fairly close approximation to the harmonic equivalent of 9.11 found by scientific experiment. A difference of 1.426 per cent.

To form an atomic structure, the electron mass unit must have some sort of constant mass ratio in relation to the protons which form the nucleus of an atom. Most textbooks give an experimental value for this ratio of 1836 units. I found again from my work on the Pyramid that the most likely true value was 1833.464944 units. This turned out to be the theoretical length of the Grand Gallery in geodetic inches, and indicated to me that the Gallery was in fact constructed as a wave guide, tuned to light harmonics. The actual mathematical derivative proved to be:

$$\frac{144 \times 4}{\pi} = \frac{576}{\pi} = 1833.464944$$

This is equivalent to four times the speed of light harmonic, divided by the mathematical constant, *pi.* We now find that if we multiply electron mass by this constant to calculate the mass of the proton, we have 9.24184 × 1833.464944 = 16944 units to the nearest round figure. The harmonic mass of the proton in the atomic nucleus is therefore a constant of 16944. This value has been shown as 1695 in my previous books with my admission that I was not aware of its significance. The constant of 16944 is also evident in many parts of the structure of the Great Pyramid.

The average radius of action of the electron around the atomic nucleus must also have a constant harmonic value in order to set up a system of expanding spheres which encompass the structure of each element. As the number of protons in the nucleus increases with the buildup of each element, the spherical space which houses the electron shell must expand to accommodate an equal number of electrons. Although the protons and electrons are nothing more than extremely concentrated wave-forms, we consider them as physical particles in order to build up a picture of our model. As each electron cloud, or shell, expands outward from the nucleus, we find that it can accommodate only eight electrons. The shell is then filled up and another expansion must take place in order to form a new shell or harmonic zone, which again builds up to a maximum of eight electrons. As the magnitude of the harmonic resonance intensifies, heavier and heavier elements are produced until we reach a maximum of 144 elements. The light harmonic is then equal and the cycle has been completed. The whole series is a repetition of octaves of wave-forms forming more and more complex structures.

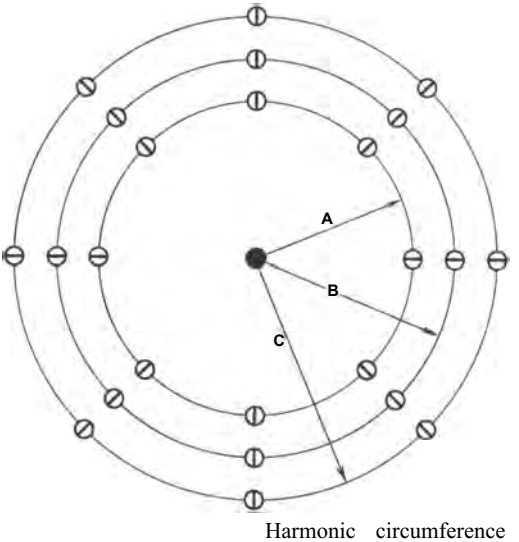
The harmonic radius of the electron movement which creates each shell is equivalent to the mass ratio of the proton and electron; i.e. 1833.464944 units. By increasing or decreasing this radius by the power of 10 a constant harmonic circumference for each electron shell can be calculated. The circumference can then be divided equally into an octave of eight electron positions which are spaced at 144 units (or the harmonic of light) apart. For example, three different atomic structures would have the same harmonic radius. The different harmonic jumps to the

DIAGRAM 6

Showing A: Mass relationship of proton and electron.
B: Harmonic radius of action of electron.
C: Harmonic circumference of electron travel around proton.
D: Spacing of electrons at harmonic distances around harmonic circumference.

Mass relationship of proton and electron = 1833.464944:: 1

Electron orbits



: Proton
: Electron

A : Harmonic radius 1833.464944
B : Harmonic radius 18334.64944
C : Harmonic radius 183346.4944

Harmonic circumference of electron travel for radius A:B:C.

A: 11520
B: 115200
C: 1152000

Spacing of electrons around harmonic circumference of electron shell.

11520 ÷ 8 = 1440
115200 ÷ 8 = 14400
1152000 ÷ 8 = 144000

The mass relationship of the proton and the electron was found to be $(288 \times 2)/\pi = 1833464944$ harmonic (by calculation: see Grand Gallery, Great Pyramid). This theory of the structure of matter indicates how each element in the atomic table of elements is built up from harmonic wave-forms. The radius of motion of the electron has a constant harmonic value of 1833464944. The radius increases in harmonic jumps of 10 units, thus creating a constant harmonic circumference of action of 1152 units. Each electron shell of harmonic circumference 1152 can be divided into eight electron positions 144 units apart. As each electron is created in each shell, it is therefore spaced at a constant distance of 144 units (or the speed of light harmonic) from its neighbour.

power 10 in the radii being denoted by the shifting of the decimal point.

A. Radius = 1833.464944 units
Diameter = 3666.929888
Circumference = $3666.929888 \times \pi$ = 11520
Maximum number of electron positions = 8
$11520 \div 8 = 1440$

B. Radius = 18334.64944
Diameter = 36669.29888
Circumference = $36669.29888 \times \pi$ = 115200
Maximum number of electron positions = 8
$115200 \div 8 = 14400$

C. Radius = 183346.4944
Diameter = 366692.9888
Circumference = $366692.9888 \times \pi$ = 1152000
Maximum number of electron positions = 8
$1152000 \div 8 = 144000$
And so on.

We can see by calculation that the proton will always have a harmonic value of 16944 and the electrons positioned around it will always have a spacing equivalent to the speed of light harmonic. (See diagram 6).

The harmonic cross-sectional area of each atom, regardless of the physical substance it constitutes, would likewise have a constant value of 1056 (accurate to the first four figures). I had constantly come across this figure in my research over the previous few years and believed it (in error) to be the harmonic of the total number of elements in the atomic table. My recent work has convinced me finally that the completed table numbered 144 elements, and this seems logical when all the associated harmonic relationships are taken into consideration. I pointed out in my second book that the scientists have positioned electronic listening stations, spaced just on 1060 minutes of arc apart, in various places round the world, to monitor the results of atomic testing. It is likely that the exact spacing is 1056

minutes of arc. This would tune the relative position of each station to the structure of the atom.

As each atom moves through space, it traces out a spiralling path. During its travel it is spinning, and at the same time revolving end over end, according to the harmonic theory. It turns through 180 degrees for each forward movement equivalent to its diameter (or 144 units). During each 180° of movement it forms a particle of matter or antimatter, in alternate pulses, due to the constant change of mathematical sign from positive to negative, and back to positive etc. This sets up the 288-unit pulse which constitutes a full cycle of matter formation. The volume of the cylindrical space traced out by one double pulse is equal to 304128 cubic units. The reciprocal of this number is 3288. I'm not sure what this denotes, but possibly the cubed space formed by the harmonic 288?

As each octave of electromagnetic resonance is built up, creating an intricate interweaving of wave patterns, the different elements begin to form. At each full octave a new element is produced. That is, when an element has been formed, followed up the scale by its six similar isotopes, the next harmonic jump to produce a full octave occurs with the simultaneous creation of the next higher element. This process continues right up the scale until all 144 elements are produced.

In my original work, published in my second book, I showed that the equation for mass was equal to:

$$M = \left(C + \sqrt{\frac{1}{C}}\right)$$

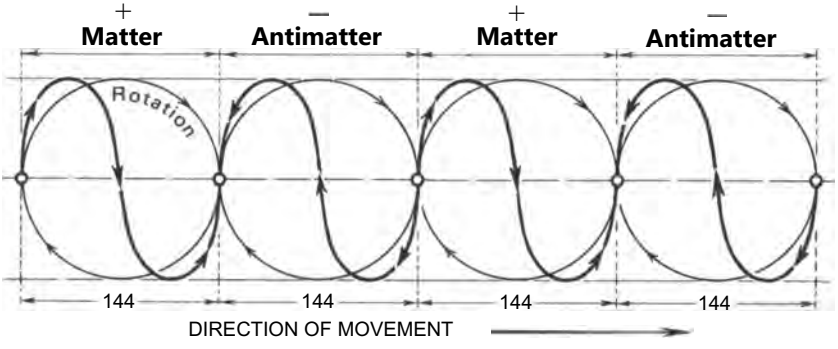
Where C = Speed of light harmonic

This seems to bear out in practice as the different elements and isotopes are created by the expanding waves. The harmonic base line for the wave is a constant 144 units (unit of light speed C). I found that if I divided the constant radius of action of electron movement 1833.464944 by the light reciprocal 6.9444 the harmonic jump in the magnitude of the wave-form which created each element and its associated isotopes was equal to the harmonic value 2640, or the square root of the reciprocal of light speed.

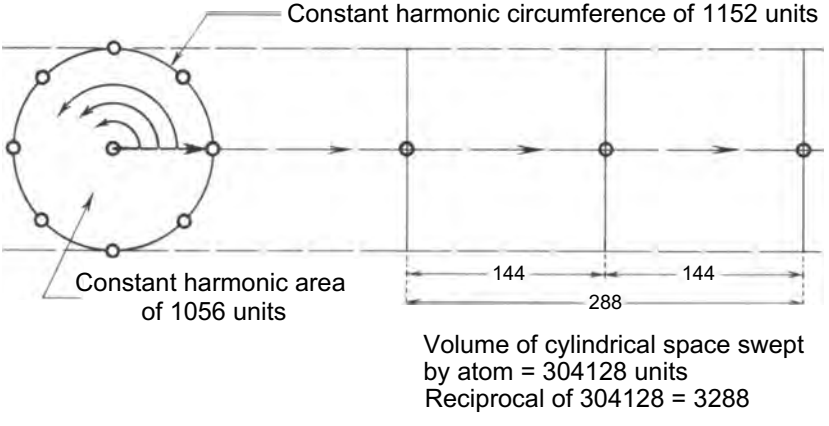
To qualify the value of $\sqrt{1/C}$.

DIAGRAM 7

Showing the harmonic wave-form which creates an atom of matter and anti-matter, in alternate pulses.



The harmonic radius of the wave-form would have a constant value of 1833464944 for the 144 elements in the atomic table. The cross-sectional area of each atom would have a constant harmonic value of 1056 (to the nearest four figures).



Volume of cylindrical space swept by atom = 304128 units
Reciprocal of 304128 = 3288

In my earlier work, I found this value to be 2640 (*Harmonic 33*).

The pure value of $\sqrt{1/C}$ using the harmonic of the speed of light in free space, of 144, is 263523. As the light speed decreases during the formation of matter, because of the absorption of energy, the value of $\sqrt{1/C}$ would increase towards 2640. These values are the most accurate I can get with straight vector calculation on my small calculator. Larger computers programmed for vectors in curved space would be necessary to calculate absolute values, although I believe the boundaries between the physical and nonphysical will be discovered to be very nebulous.

I consider that my calculated values are close enough to indicate the theoretical propositions. Together these formed a wave constituted from the values $(C + \sqrt{1/C})$.

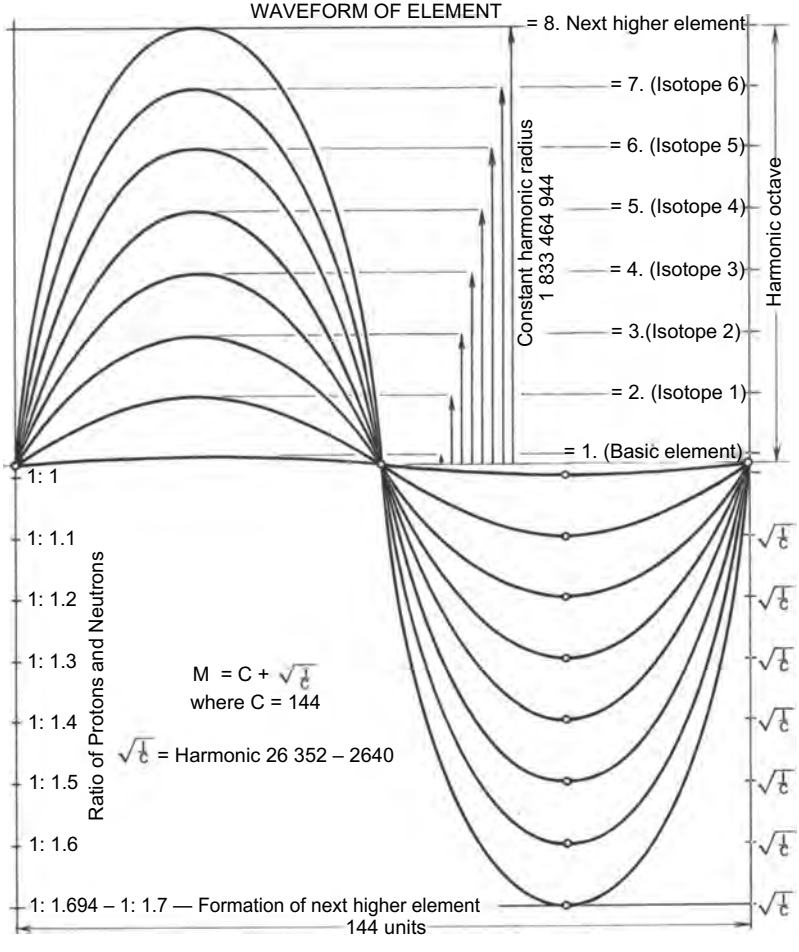
This in turn gave a natural wave-form for the basic element, and six positions spaced $\sqrt{1/C}$ apart at which points the six isotopes are formed. When the harmonic magnitude of the wave passes through 6.944 units towards 7, the next higher element is created and so on in cycles of one octave. The harmonic 1.6944 shows up also in this cycle of element formation, due to the introduction of neutrons into the atomic nucleus. It is stated in the physics books that the maximum number of neutrons that can be contained in the atomic nucleus is 1.6 times the number of protons. The theory of harmonic formation agrees with this. If the ratio of protons and neutrons in the basic element is taken as 1:1 then as each isotope is built up due to the introduction of neutrons we have the mathematical progression of 1:1, 1:1.1, 1:1.2, 1:1.3, 1:1.4, 1:1.5, 1:1.6, for the element and the six isotopes; then, as the harmonic increases to 1:1.6944 and above, towards 1:1.7, we get the formation of the next higher element. This cycle also repeats itself. (See Diagram 8).

It is very difficult to demonstrate a three-dimensional proposition by means of a simple explanation and diagrams, so I hope I have given enough basic information to allow those interested to form a mental picture of the harmonic process of matter formation.

The mental picture I have of physical substances being formed from resonating light-waves is so complex that I despair of anyone being able to understand just what I am trying to convey.

DIAGRAM 8

Showing the harmonic wave formation of a basic element and the six associated isotopes.



It may be possible at some future date to construct some three-dimensional models which will make things somewhat clearer.

The Octave of Elements

The next quest for man is the exploration of space and the hunt for new worlds to colonise. More than probable is the future contact with intelligent beings from the millions of planets similar to our own which must exist in the galaxy. The advances in our scientific knowledge tend to suggest that this may be in the not too far distant future.

If we are to move out into space, then we must find some new means of propulsion for our space vehicles. The method of rocket propulsion we use today is not efficient enough to take us to the nearest stars, let alone into the depths of space. The distances are far too great for us to travel at the comparatively slow speeds we can attain with our present technology. We would be long dead and a heap of dust before we crossed even part of the galaxy.

A new method must be found that will change our concepts of space and time, and thus bring all sections of space into one cosmic community. It is not so many years ago, in my own country, that a journey of a few hundred miles took a number of uncomfortable days on the back of a horse. Many places were quite inaccessible to us, and we thought of them as far, far away. Now we carry out the same journey in a matter of minutes in a modern-day jet airliner.

Physically, the places are still the same distance away, but our scientific advancement has brought them very close in our minds, and in time.

Time is the key with which we will conquer space. The problem is how. A vehicle which moves by the application of brute force is not the answer. This is the rocket type of concept. A point is being reached where the whole thing is becoming entirely impractical. The thrust mechanism becomes completely unwieldy, and astronomical in cost in relation to the payload, and the time factor is still a problem.

What is required is a vehicle which will change the space-time fields within and around it. This, in effect, would transport it from one point in space to another in small amounts of time in relation to the earth-time continuum.

As my own research has shown me that physical reality is manifested by the harmonic nature of light, it appears logical that a vehicle constructed to the principles of harmonics will be required to set up the space-time fields necessary. If this is so, then the first criterion will be that the vehicle must resonate in perfect harmony with the complete table of elements in our physical universe. If it does not, then it would be more than probable that any element or particle of matter not in harmonic resonance within the vehicle structure, or payload, would be left behind when the space-time field was activated. The results would be embarrassing, to say the least!

It would be impractical to construct a vehicle made from an alloy of the whole range of 144 elements in the theoretical atomic table. Apart from this, such an alloy is no doubt a physical impossibility.

The clue which suggests a method of overcoming this problem is the way matter is built up in octaves of wave-forms. If an octave of elements could be combined, which would set up a resonating field tuned to all the elements in the table, and the unified fields of space then, maybe, we would have a method of crashing the time barrier.

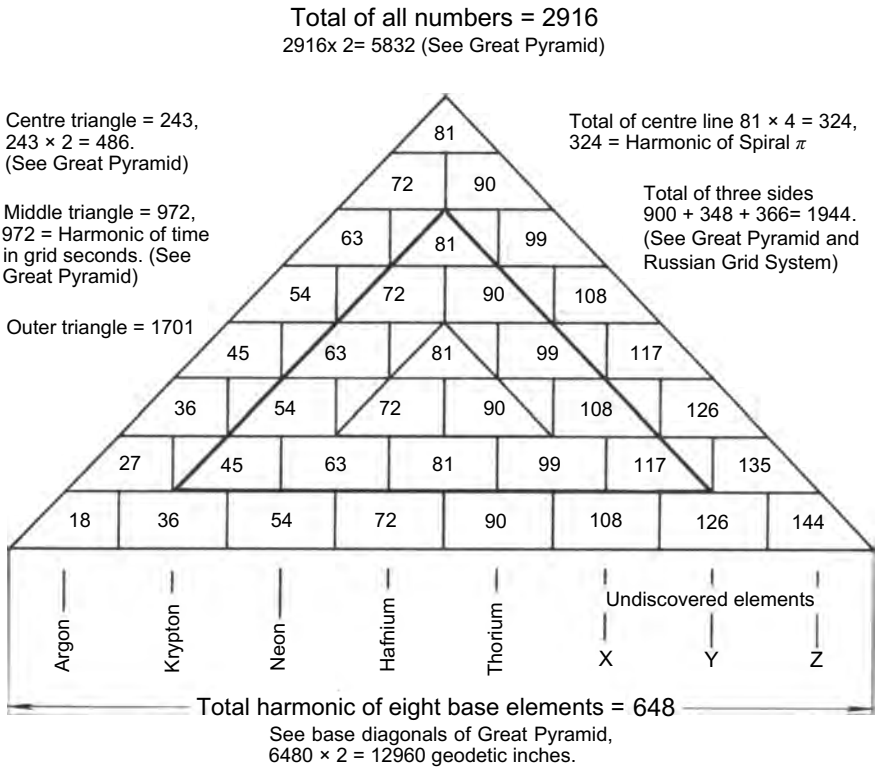
I put forward the following proposal for consideration. If an octave of elements is the answer let us make a selection from the theoretical table of elements of 144. If we divide 144 by 8 we get divisions of 18 units, therefore we will select each of the elements we require, 18 units apart, as follows:

Atomic number 18: argon
Atomic number 36: krypton
Atomic number 54: xenon
Atomic number 72: hafnium
Atomic number 90: thorium
Atomic number 108: X
Atomic number 126: Y
Atomic number 144: Z — UNDISCOVERED ELEMENTS
Total number 648

It can be seen that the total harmonic value of the atomic numbers of the combined elements is 648. This is equivalent to twice the harmonic of spiral π 3.24 (324), and the square root of 648 is equal to 25.45584412 (2545584412 harmonic) found in the

DIAGRAM 9

The Harmonic Pyramid of Elements



polar square sections of the world grid. Many other harmonic associations can be found in other sections of this book.

I found also, that if I set up a harmonic pyramid of numbers, using this octave of atomic numbers as a base-line, quite an amazing set of values could be derived. (See Diagram 9).

Many of the harmonic numbers found in the analysis of the Great Pyramid were evident. Is it possible that this line of research would lead us to the stars?

Note: During the publication of this manuscript a newspaper article published in the Southland Times, 19th June 1976, came to my notice. It states that after seven years of research at the Florida State University, three, and possibly six new natural elements had been discovered for the first time in 51 years.

The three elements positively identified have atomic numbers of 116, 124, and *126*. Do the scientists know something, and are they now looking specifically for numbers 108 and 144?

SIX

THE MAPS OF THE ANCIENTS

WHO WERE THE ANCIENTS who mapped the coastline of Antarctica, long buried under massive layers of ice and hidden from the eyes of modern man? It is only in recent years that our scientists have probed beneath the ice with electronic instruments, and found the contour of the coastline deep down below the surface. It has been said that either the cartographers of old had the same scientific means of doing the job as we have, or that the coasts were then free of ice and the contours mapped from a high altitude. This would mean that our ancestors had some means of air travel. We shall not venture too far into that, though much has been written on the subject. The maps themselves are of the greatest interest to us, from a scientific and mathematical point of view.

Charles H. Hapgood, a professor at Keene State College of the University of New Hampshire, in the United States, has provided a complete scientific analysis of one of these maps which indicates a very advanced level of mathematics as the basis for construction.

The chart used for the project was a copy of an old parchment now known as the Piri Re'is map. It was discovered in 1929 in the Imperial Palace in Constantinople and, according to the date inscribed, was produced in 1513. The signature found on it was that of Piri Ibn Hati Mammed, known as Piri Re'is, at that time an admiral in the Turkish navy.

What caused a special interest in this map was the fact that it showed South America and Africa in their correct relative longitudes. As there was no means of calculating longitude in the 16th century, this caused much puzzlement amongst the scientists.

In 1956, attention was again centred on the map when a copy was presented to the United States Navy Hydrographic office by a Turkish naval officer. A member of the staff referred the map

to a friend, Captain Arlington H. Mallery, who had made a study of the ancient Viking maps of North America and Greenland. It was Mallery who suggested that the original map was made before the coast of Antarctica was covered in ice. He said it was his opinion that the southern part of the map traced out the inlets and islands of the Antarctic coast which are now buried under millions of tons of ice.

Many other scientists conceded that Mallery may be right, and subsequently Charles Hapgood decided to investigate the map in a thoroughly scientific way at Keene State College. He was helped to a great extent in the venture by a number of his students.

Their first step was to acquaint themselves with as much information as possible in regard to mediaeval maps. They concentrated mainly on the old sea charts or "Portolan" maps which guided the sailors of old from port to port.

It was found that the old charts appeared to have been copied from a more ancient master-map. What pointed to this was the fact that no major change had been made in the maps for over 200 years, dating from the 14th century. The original map had been so accurately constructed that no one in that period had the knowledge to improve on it. Mr Hapgood states in his book that "the evidence pointed to their origin in a culture with a higher level of technology than was attained in mediaeval or ancient times".

It was a difficult task to determine the method of construction of the chart, but it was finally decided that the only possible way would have been to work from some central point. From this the mapmaker would select a radius of sufficient length to cover the area he wished to reproduce and then draw a circle. This circle would then be divided up into 16 equal triangular segments, each of which subtended an angle of 22½ degrees at the centre. If the points of intersection of the various radii and the periphery of the circle were then joined, four different squares could be drawn to form the basis of a grid. By choosing one of the squares and drawing a series of lines parallel to the sides of the square and at right angles to each other, the map lattice would be completed. The details of the map could then be plotted in.

If the grid line which passed through the centre of the circle was orientated towards the north, then the map graticle would

be much the same as that used in modern-day construction.

The difficult part was to find out where the centre for the Piri Re'is chart had been placed, as only a small fragment of the map remained. It could be seen that its centre would have been in a position a long way to the east.

A number of different projections were calculated over a period of three years, and each time it was found that errors in either latitude or longitude resulted. By gradually lengthening and shortening the radius and shifting the central point, it was eventually discovered that the most probable position for the centre was at 23.5 degrees north, 30.0 degrees east. The radius which was finally calculated to give the best results proved to be 69.5 degrees long.

Here again we have a very strong indication that our ancestors had an extensive knowledge of science and mathematics. The value of 69.5 degrees for the radius is very close to the natural earth harmonic geometric of 6944 (see Chapter Four) and the reciprocal of the pure harmonic of light. The mapmakers of that time apparently used a method of map projection which was based on universal mathematical constants, which afforded them great accuracy in plotting the surface features of the earth.

SEVEN

RUSSIANS AND GERMANS DISCOVER WORLD GRID SYSTEM

PYTHAGORAS TAUGHT THAT ALL the elements contained in the physical universe were built up from geometrical figures. The most interesting of these was the pentadodecahedron, which was identified as the "sphere of the universe", or the "hull of the sphere". The construction of the world was likened to the building of a ship, by the use of geometrical shapes. Plato also referred to this in the *Phaedo* where we see a statement that the "true earth", if looked at from above, is "many-coloured like the balls that are made of many pieces of leather".

Out of the regular solids, the dodecahedron is the one that most closely approaches that of a sphere. It is a solid that is bounded by twelve surfaces, and in the case of the pentagon-dodecahedron, twelve regular pentagons. If a ball were made up of twelve pieces of leather, the pieces would be in the shape of a regular pentagon. If the pieces were not flexible, but rigid, the geometric body would be a dodecahedron instead of a sphere. The ancient philosophers regarded this geometric figure as the building-block of the universe, and the knowledge was so secret that anyone revealing it was immediately put to death. It is possibly for this reason that the schools of mysticism adopted the pentagram, or pentalpha, as their symbol. There was considered to be much magic power in the five-sided figure and the Pythagoreans regarded it as the symbol of health.

Is the earth some sort of gigantic crystal with a rigid skeletal-like structure beneath the surface? The Russians ran a story to this effect in 1973 in the *Komsomolskaya Pravda*, the official newspaper for the younger generation of the Soviet Union.

The globe was not just the simple spheroid that we imagined. The suggestion was that it first started out as a large crystal with angular dimensions and that after millions of years of wearing-down processes, the crystal finally rounded itself into a ball. According to Soviet scientists, the angular edges of the primary

crystal now lie beneath the surface of the earth. In some areas, the edges of the crystal protrude imperceptibly through the surface, giving us a slight clue to the overall pattern beneath.

Knowing nothing of these theories, a Russian historian by the name of Nikolai Goncharov had a hunch that there might be a pattern to all the centres of earliest human culture and accordingly began to mark them out on a globe. Later, collaboration with a construction engineer, Vyacheslav Morozov, and an electronics specialist, Valery Makarov, led to a complete hypothesis concerning the geometric nature of the earth. After working together for several years they published an article in the science journal *Chemistry and Life* issued by the USSR Academy of Sciences. The article was headed "Is The Earth A Large Crystal?"

The article was based on studies covering widely separated fields such as archaeology, geochemistry, ornithology and meteorology. They theorised that the earth projects from within itself a dual geometrically regularised grid. The initial form of the grid being twelve pentagonal slabs over the surface of the sphere gave evidence to the fact that the first shape of the earth was a dodecahedron. The second part of the grid is formed by twenty equilateral triangles making up an icosahedron. They maintain that by superimposing the two grids over the surface of the earth a pattern of the earth's energy structure can be perceived.

A careful study of the Russian system showed that the lines tracing out their dual grid on the earth's surface coincided with zones of active risings and depressions on the ocean floors, core faults and mid-oceanic ridges. One of the vertices of the triangles falls just east of Florida, near the centre of the infamous "Devil's Bermuda Triangle", known worldwide as an area of mysterious disappearances of numerous ships and aircraft. It is now known that there are twelve of these areas.

It was also noted that at various positions on the edges of the polygons, scientists have discovered regions of seismic and volcanic activity. Magnetic anomalies are likewise found at the vertices of the polygons. The nodes of the grid are centres of great changes in atmospheric pressure and hurricanes form in these areas, veering off to follow the paths of intersection formed by the interlocking patterns. Prevailing winds and ocean currents also fit into the network.

An extremely interesting point of the system is in the African republic of Gabon. According to the scientists, a "natural atomic reactor" was recently discovered there, which was active 1.7 billion years ago. This caused a mass of uranium 235 to reach a level of chain reaction. Oddly enough, this piece of evidence backs up the information published in my first two books regarding the geometric nature of atomic reactions. Certain modern-day atomic stations must be constructed on geometric locations in order to function efficiently—breeder stations in particular. An atomic bomb is a geometric device which necessitates geometric positioning for detonation.

Large mother lodes of mineral ore and vast oil deposits can be found where lines of the system cross each other. A whole new science is beginning to unfold from research into the geometric makeup of the world beneath our feet.

Satellite photographs have been correlated with the grid. The Ural Fold extends along one of the lines and a gigantic fault from Morocco to Pakistan coincides with one of the ribs. Large circular geological structures show up on intersections in Morocco, California and Florida. Even soil is apparently affected according to its location on the grid: at different intersections the very elements making up the soil are mixed in different proportions.

Man himself, the authors say, has not escaped the influences of the energy emitted by the grid lattice. Many of the ancient cultures seem to have flourished on intersections of the system. The mind of man is evidently tapped into the very circuitry of the ball of energy that constitutes the world that provides his home.

Most startling of all is the revelation in their article that to line the system up on the surface of the globe so that all these different factors could be correlated, the point they located as position one was that of the Great Pyramid of Giza, in Egypt. The "measure of light" is the key.

It is obvious from these reports that the Russians are working along the same lines as I have been. I too had found similar manifestations in geometric locations round the world, by the study of two interlocking grid patterns. The Russian grid was shaped differently to mine but the same facts were becoming

evident from the related research efforts. This hinted at the probability that the same mathematical concepts could be applied to either system. So the next step from my point of view was to break down the Russian grid into mathematical co-ordinates, as I had done originally with my own system, to see if the geometrics were based on light harmonics. If this proved to be so, then a future computer programme could probably lock the two concepts into one overall complex pattern.

The problem was not a simple one. I could not find a mathematics book which would show how to calculate the dimensions of the pentagram-shaped areas on a spherical dodecahedron. Possibly such a text exists, but with my limited knowledge of mathematics I was unable to unearth it. So—back to my old standby for a practical problem such as this—a child's large plastic soccer ball. The smooth surface enabled me to draw geometric designs upon it to my heart's content. After two days of calculating, sketching in dodecahedrons, and obliterating them in despair many times, I finally had what I believe to be a very intriguing answer. The Russian system *does* give the same values of light harmonics that I discovered in my original grid pattern. The two systems *do* correlate mathematically, and should complement each other if subjected to a computer programme.

Diagram 10 will show that measurements from the midway position on each side of the pentagon-shaped areas to the opposite apex are equivalent to 69.4 degrees (the reciprocal harmonic of light).

The sides of each pentagon are formed by sections of great circles 41.2 degrees long, a half-side measuring 20.6 degrees. The harmonics of 412 and 206 are built into the King's Chamber in the Great Pyramid and have connections with light factors as postulated in other sections of this book. From the midway point of each side to the centre of a pentagon measures 32.4 degrees (a harmonic of spiral *pi* 3.24).

The centres of the pentagrams north and south of the equator fall on latitude 25.2 degrees. The midway points of the sides of the pentagrams (marked as solid black circles in Diagram 11) fall on latitude 57.6 degrees north and south. Light harmonics are associated with this figure and it is a significant value in the structure of the Great Pyramid.

Two pentagrams are centred on the north and south poles and the other ten are positioned north and south of the equator at 72-degree intervals of longitude.

The triangular-shaped sections are spaced at 72-degree intervals of longitude in conjunction with the centres of the pentagons.

The distance between the pentagon centres is 64.8 degrees (not to be confused with degrees of longitude). The square root of the 648 harmonic is 2545584412. (See grid polar squares; earth's magnetic field Chapter One).

The distance along the sides of the triangle-shaped segments from pole to pole is 194.4 degrees. The significance of this value is explained in other sections.

The Russians are certainly on to something and a much more extensive in-depth study will have to be made of the network they have uncovered in order to "winkle out" all the secrets inherent within it. Suffice it to say that enough is known at this stage to guarantee a goldmine of scientific truths.

The Germans are not to be left out in the exploration of the energy fields within the earth. They are known to be far-reaching in the realms of science and not afraid to explore, or put into practice, concepts which to most other western scientists appear fantastic. The "buzz bombs", V2 rockets and jet aircraft developed during World War Two are direct proof of this.

A book written by Siegfried Wittman was published in Innsbruck, Austria, in 1952. It was titled *Die Welt Der Geheimen Machte*, or *The World Of The Secret Forces*.

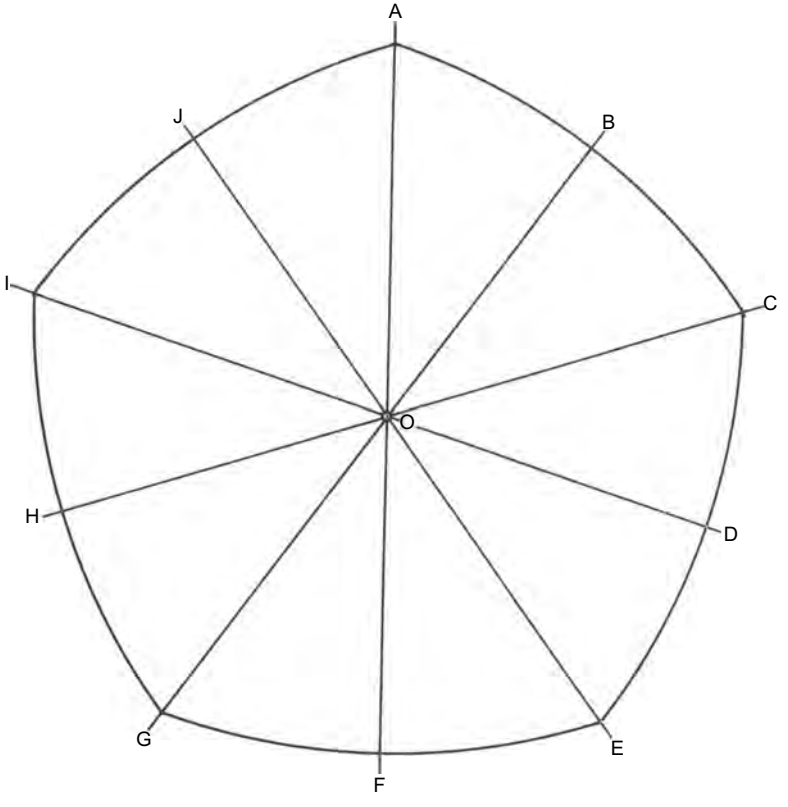
An unusual number of people were involved in the research that went into the subject-matter of the book. The group formed a very impressive mixture of professional minds to be focussed upon one project: Dr Willi Schlosser; Prof Hellmut Wolff; Hans-Wilhelm Smolik; Heinrich Reblitz; Theodor Weiman; Herbert A. Lohlein; Ferdinand Reich; Univ. Prof Dr Hubert J. Urban; Dir. Prof Dr K. Sailer; Prof Dr George Anschutz; Prof Dr Theol; and Adolf Koberle.

After extensive research they came to the conclusion that the earth has upon its surface a grid system, in a checkerboard pattern consisting of positive and negative poles.

The squared pattern, according to them, has a centre pole

DIAGRAM 10

Showing dimensions of pentagonal-shaped areas of Russian grid system.



A–F
C–H
E–J
G–B
I–D
= 69.4 degrees

A–C
C–E
E–G
G–I
I–A
= 41.2 degrees

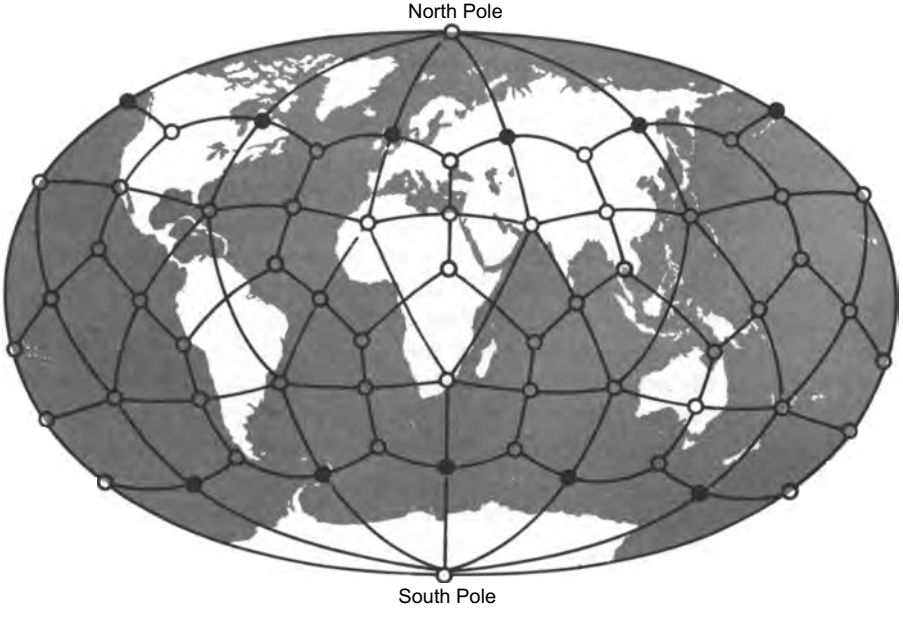
A–O
C–O
E–O
G–O
I–O
= 37 degrees

B–O
D–O
F–O
H–O
J–O
= 32.4 degrees

A–B
B–C
C–D
D–E
E–F
F–G
G–H
H–I
I–J
J–A
= 20.6 degrees

DIAGRAM 11

World grid system discovered by the Russians.



As shown in the above diagram twelve pentagram-shaped areas cover the surface of the globe. One pentagram is centred on the north pole and one on the south pole. The other ten are spaced at 72-degree intervals of longitude north and south of the equator, the latitude of the centres being at 25° 12′ north and south. The positions marked with solid black circles fall on latitude 57° 36′, or 57.6 degrees north and south. This latitude has an association with the double light harmonic of 288, or 2C: 57.6 being twice 28.8. This value is built into the Great Pyramid. The triangular-shaped segments are also spaced at 72-degree intervals of longitude in conjunction with the centres of the pentagons.

surrounded by eight smaller poles within each section. The squares vary in size from the equator, getting smaller in the direction of the earth's poles. The main pole concentrates energy. Experiments conducted at north latitude 48° indicated that the centre pole has a diameter of 2.45 metres. The eight smaller poles have a diameter of 60 cm. Four of the eight outer poles send energy up toward the sky in alternate pulses. The other four send energy outward horizontally to the north, south, east and west.

The squares at 48° north latitude are 15.9 metres diagonally from centre to centre poles. A border field is mingled together in the north-west and south-east directions, and in the south-west and north-east directions. These four corners of the squares seem to connect the fields of two of the negative smaller poles, and two of the positive smaller poles. The side length measurements at the equator are 32 metres long. The main centre pole of each positive square shows a direction of energy from above to below the earth's surface. The created pulse forms a vortex. The negative poles work in the opposite sense.

Not much more is known to me of the German research effort at this stage as I have only sighted extracts from the book. One thing does stand out however from the scanty bits of information that I do have: the Germans carried out many of their experiments on latitude 48 degrees. What made them select this particular latitude in preference to any other? Could it be that 48 degrees happens to be 2880 minutes of arc? Have they also discovered that the harmonic of twice the speed of light is 288? The unified equation derived from this harmonic cannot be a particularly well-kept secret. This band of learned men appears to be aware of a grid complex similar to the one I described in my earlier writings. I would be most interested to be advised of their complete findings—particularly if they are now in possession of the knowledge to make use of the energy being radiated by the system.

I have a feeling that there are many people, or small groups of people, in the world that know the secrets of tapping free energy from the earth grid and that the knowledge has always been available to the select few. As far back as 1919, at least one man demonstrated that he could run electric motors and lighting

systems without having to pay the power companies one cent for the power he used.

A young nineteen-year-old inventive genius by the name of Alfred Hubbard startled his contemporaries by powering an eighteen-foot boat around Portage Bay, not far from Seattle, by use of a free energy device.

The boat was driven by a 35hp motor without the aid of batteries. The electrical energy was supplied from a transducer within the boat. This device was in exact electrical resonance with his free energy transformer, which had been constructed on a small area of land. The transformer was supplied by energy collected from an array of ground aerials. Wires were run underground north, south, east and west for a distance of 1200 feet. At the outer end of each wire was attached a hollow tube, 18 inches long, filled with mercury. (From other information I have, I would assume that the tubes were made from pure iron. The reason for the iron-mercury combination will be discussed in another section). The mercury-filled tube combination apparently created an electrical one-way gate system which directed the energy flow to the central primary coil.

The information I have states that Hubbard made use of what the Chinese call the "cosmic flower". This was, according to them, the source of all power. The electrical energy which was directed into the central coil of the system caused a resonating pulse tuned to the natural earth frequency. This caused an electrical current to flow through the secondary coil of the apparatus due to induction.

The coils were said to be round-shaped in both the primary and the secondary. The secondary coil in one instance was wound in a diamond configuration—or wound like a basket. I have a sneaking suspicion that the two superimposed coils had a similar configuration to the Russian grid pattern (pentagonal and triangular), but this will have to wait until experiments can be carried out. (Any further factual information from readers will be most welcome).

The information is meagre but we can deduce several startling facts which will indicate that Hubbard was not just another crackpot. The ground aerials he used were 1200 feet long. If we assume that he used a measure of geodetic feet (which is only fractionally different) then the diameter of the aerial system was

2400 geodetic feet. A small calculation will show that this is equal to 28800 geodetic inches. The aerial was tuned to the double harmonic of light (288).

The 18-inch mercury-filled tubes on the end of the wires were also cut to a certain wavelength. The square of 18 is 324) which gives a harmonic affinity with the pentagrams found in the Russian system. This is also indicated when we calculate the frequency associated with this aerial length.

$$\text{Wavelength in metres} = \frac{300{,}000}{f}$$

Where f = frequency in kiloHertz.

If we assume that the pyramid inch is the standard geodetic inch (and all evidence points to this) then 28800 geodetic inches equal 28831.68 British inches, the ratio being 1.0011 to 1.0000. Converted to metres we have 732.326 metres. The aerial system is then tuned for a wavelength of 732.326 metres a grid second. This value converted to standard seconds is equal to 823.866 metres/standard second, the conversion being in the ratio 8 to 9.

From the equation we get:

$$823.866 = \frac{300{,}000}{f}$$

$$f = \frac{300{,}000}{823.866} \text{ in kiloHertz}$$

$$= 364.13688 \text{ kiloHertz/standard second}$$

$$= 323.677 \text{ kiloHertz/grid second}$$

I would venture to suggest that allowing for minor discrepancies, due to the conversion factors (that is a slight variation of measurement in British and metric standards due to time), that the true frequency of Hubbard's aerial was: 324 kiloHertz a grid second.

Again we have the 324 harmonic associated with the pentagon. A primary spherical coil, wound to form a series of pentagons, does seem to be a likely way to tune the system.

A small outlay of capital and a series of experiments could, with a bit of luck, demonstrate one of the methods of extracting free energy from the earth. If the secret can be broken it should

be possible to run several homes from such a device. I leave this open to those of you who have a streak of inventive genius.

I must thank my good friend George W. van Tassel, Director of the College of Universal Wisdom, Yucca Valley, California, for the basic information on the Hubbard free energy device and the German grid system. See '*Proceedings*', *volume 10*, *1974*, *number 6.*

EIGHT

THE MEASURE OF LIGHT

THE OBELISK RISING majestically from the sandswept plain has been visible to man for many centuries. Its massive bulk and geometric simplicity of shape have caused wonder and endless speculation to countless generations of wise men throughout history. The meaning, or reason, for such a structure has been lost and those responsible for the building of an edifice such as this must have been in possession of extremely advanced scientific knowledge. Were they an advanced race of this world who destroyed themselves by unwise manipulation of their own scientific achievement? Or, so-called gods? Or, people from other worlds who left amongst us an almost indestructible repository of advanced knowledge in the mathematical complexities of the universe?

The obelisk I speak of is not the cold, black, forbidding obelisk depicted in Stanley Kubrick's movie *2001*, but a pyramid of shining splendour built on a rocky mile-square plateau ten miles west of Cairo. The plateau is known as Giza; the pyramidal structure of an estimated two-and-a-half million blocks of granite and limestone, is the "Great Pyramid of Cheops".

Rising nearly 500 feet from the desert the mountain of granite was faced with polished limestone and must have presented a dazzling spectacle when sighted from the surrounding countryside. Estimates of the age of the pyramid vary from 5000 to 7300 years.

The base covers an area just on thirteen acres and the granite building blocks are of enormous size varying from three to ninety tons each, with several weighing as much as 600 tons. The completed pyramid is estimated to have weighed in the vicinity of six and a half million tons.

During construction the giant blocks were placed with extreme accuracy. It is almost impossible to detect the joins

between blocks of up to 100 tons. The whole structure is put together with far more precision than a Swiss watch, considering the size of the project, and not one construction company in the world today would dare to attempt such a colossal task. If they did, it would be a very poor copy and would probably collapse into a heap of rubble in a very short time from its own sheer weight.

The logistics of the enterprise would also be impossible to contend with. It has been estimated that at a building rate of ten blocks a day, the time taken to build a copy would be 250,000 days, or 684 years. That is, assuming that modern builders could manhandle blocks of this size.

A little thought will make it obvious that the Cheops pyramid and all similar edifices were not built by normal means. Some of the 70-ton blocks of red granite were transported from quarries which are 600 miles from Giza. The usual explanation that hundreds of slaves carted these across the desert using wooden rollers and raffia ropes is ridiculous. Consider: the number of trees necessary to make rollers to transport 2,500,000 blocks; the tons of raffia necessary to twist into miles of rope; the accommodation, housing and feeding problems of the slave labour employed.

There is only one answer to the riddle of such construction methods: antigravity. Only by this means could the large blocks be moved over great distances and placed so accurately. The time factor of the building programme would also have been reduced drastically by diminishing the weight of the blocks during their movement from quarry to pyramid.

Another problem to be overcome was the cutting and dressing of the blocks. Can you imagine hundreds of slaves cutting 70- to 600-ton blocks of solid granite out of deep quarries with primitive tools; then lifting them out without machinery; then squaring and dressing the surfaces to a mirror finish with a hammer and chisel; then loping off across the desert, on occasion for 600 miles, to dump them in a stockpile at the base of the pyramid?

The blocks are so finely dressed that I would suggest that the method of cutting was by use of laser beam. The laser (or amplified light beam) would be harmonically tuned to create a beam of light that was selective to granite only. I believe that a

laser can be constructed so that it is harmonically tuned to the frequency rate of any type of matter.

The pyramid-builders were not primitive people. The designers were scientists of extremely high intellect and the work was carried out by highly-skilled craftsmen using methods far more advanced than are known today. The reason for construction was also far from the mundane one of providing a tomb for the odd Pharaoh. A Pharaoh would have to be odd to tie up so much manpower resources and wealth in such a project merely to have his remains stored in a gigantic stone box.

My research has led me to believe that the Great Pyramid, particularly, was constructed for a definite scientific purpose. The exact purpose is not yet clear, although the mathematics show that the fundamental measurement throughout the structure is based on the harmonic frequency of light. Calculations also indicate that the passageways and chambers have been engineered in such a way as to form wave guides and cavity resonators which are tuned to light, mass and gravitational frequencies. What could be the meaning of this? A cosmic telephone box, a matter-transmitter, a powerhouse? Much research will have to be carried out to find the answer but I believe, at least, that the code of the construction has been cracked.

I was recently sent a copy of an article from the 23 August 1972 issue of the *Toronto Star*. This concerns the theories expounded on the structure of pyramids by Eric McLuhan, son of Marshall McLuhan and an electronics specialist at St Michael's College, which appear to agree with what I have found by calculation. The article describes Eric as an "intellectual gymnast who effortlessly straddles several academic disciplines at once and feels as comfortable exploring wave mechanics or nuclear physics as he does the work of the French symbolist poets. He is outrageous, arrogant, brilliant, and one minute you decide he is a genius or the next that he has slipped slightly round the bend".

McLuhan says that "pyramids do something. They are not just glorified tombstones, as many of the early pyramids show no evidence of burial. A cardboard pyramid of the right dimensions—the same dimensions as the Great Pyramid of Cheops—is capable of sharpening a dull razorblade placed

inside it, or of dehydrating meat. Researchers in Czechoslovakia, France, the USA and elsewhere have satisfied themselves that the pyramid's shape, in some way that we don't understand, acts as a device for manipulating forms of energy that modern science hasn't yet defined. But how?"

When McLuhan saw a photograph of the bent pyramid at Danshur, he considered it to be a two-frequency octahedron and the fact that Egyptian priests in ancient times had used the same geometric concept set him thinking. He says "the reason the pyramids have remained an enigma is the separation between disciplines. If an archaeologist knows nothing about electronics, he is not likely to see that the pyramids were tools; a sophisticated piece of technology".

To test his theories he farmed out several experimental pyramids to scientists in Toronto, Hamilton and Ottawa. One is dehydrating food, one is sharpening razorblades, and in a third they're experimenting with semiconductors—the crystalline electronic components that are the basic building-blocks of modern miniaturised electronics. McLuhan speculates that the semiconductors grown inside the pyramid could be the most efficient ever known because they have been grown in a magnetically pure environment.

He theorises that as the transistor manipulates electrons, so the pyramid can focus, or deploy, the forces of magnetism and gravity. The dehydration and edge-sharpening effects are explained in terms of wave mechanics. Oxygen atoms behave differently inside different magnetic fields. Magnetism can affect the way they bond with, or dissociate from, other elements. Since the razor's edge is composed of metal oxides, and since oxygen atoms depart during the dehydration process, McLuhan suspects that a coherent magnetic field inside the pyramid may be the explanation. "The pyramid is a resonating cavity", he says, "just like a trumpet, a cyclotron or a hi-fi speaker".

Another interesting article which points to the fact that the pyramid shape sets up some type of electromagnetic or gravitational force was published by the London *Times* on 14 July 1969. The article written by John Tunstall says, in part:

> Scientists who have been trying to X-ray the pyramid of Chephren at Giza, near Cairo, are baffled by mysterious influences that are throwing into utter confusion the readings

of their space-age electronic equipment. For twenty-four hours a day for more than a year, in the hopes of finding secret chambers thought to exist within the six-million-ton mass of the pyramid, they have been recording on magnetic tape the pattern of cosmic rays reaching the interior.

The idea is that as the rays strike the pyramid uniformly from all directions, they should, if the pyramid is solid, be recorded uniformly by a detector in the chamber at the bottom.

But if there were vaults above the detector, they would let more rays through than the solid areas, thereby revealing their existence. More than one million dollars and thousands of manhours have been spent on the project, which was expected to reach a climax a few months ago when the latest IBM 1120 computer was delivered to Ein Shams university near Cairo.

At Ein Shams, Dr Amr Gohed, in charge of the installation at the pyramid, showed me the new IBM 1120 computer surrounded by hundreds of tins of recordings from the pyramid, stacked up in date order. Though hesitant at first, he told me of the impasse that had been reached.

"It defies all the known laws of science and electronics", he said, picking up a tin of recordings. He put the tape through the computer which traced the pattern of cosmic ray particles on paper. He then selected a recording made the next day and put it through the computer. But the recorded pattern was completely different.

"This is scientifically impossible", he told me. . . .

I asked Dr Gohed, "Has this scientific knowhow been rendered useless by some forces beyond man's comprehension?"

He hesitated before replying, then said: "Either the geometry of the pyramid is in substantial error, which would affect our readings, or there is a mystery which is beyond explanation—call it what you will—occultism, the curse of the Pharaohs, sorcery, or magic—there is some force that defies the laws of science at work in the pyramids!"

This particular research project was sponsored by the US Atomic Energy Commission, the Smithsonian Institute, and the Ein Shams University in Cairo.

It is obvious that knowledge of vast importance to mankind is

locked up in the secrets of the pyramids and the very word *pyramid* should give us the first clue. The literal meaning is "fire in the middle". On page 86 of *The Great Pyramid—Its Divine Message,* by D. Davidson and H. Aldersmith, another derivation of the word is given: *pyramid* is the Grecianised form of the Hebrew *urrim-middin*—"light measures". The Egyptian name for the Great Pyramid is *Khuti*—"the Lights". In the Semitic languages the equivalent name is *urim*—"the Lights". In Phrygian and Greek, the root *ur* (light) became successively *pur* and *pyr* (fire) and *pyra* (plural), "beacon fires".

In Chaldee and Hebrew *middin* equals "measures". Hence the Chaldee-Hebrew name for the Great Pyramid—in Egyptian *Khuti,* "the Lights", is *Urim-middin* (*purim-middin*) or "lights-measures".

I found some more interesting facts in a pamphlet written in 1972 by a Mr G. Patrick Flanagan, Ph.D., on "The Pyramid and its Relationship to Biocosmic Energy". Mr Flanagan was cited in two pages for his scientific and inventive genius, some years ago, in a *Life* magazine article which named 100 of the most important young people in the United States in government, science, space, business, education, religion and the arts. They were called "the takeover generation".

Mr Flanagan states that the Great Pyramid of Giza is a powerful source of biocosmic energy. He calls this particular field of science Magnetic Form Resonance and says that his research results confirm that the energy is of a special magnetic nature—the forces that bind the universe together. Energies of microcosmic levels may be tuned in with microcosmic devices such as the pyramid. "The pyramid generates millimicrowave or nanowave radiation by the simple fact that it has five corners—the four base corners plus the apex. The corners are in effect a type of nanowave radiator. The radiation from the molecules or the atoms of matter in the pyramid combine by the angles of the corners into a beam which bisects the angles and transmits a beam of this radiation towards the centre of the pyramid. The molecules or atoms of this area absorb these energies by resonance. As the energy increases, the electron orbits start to expand. As more energy is absorbed more expansion occurs. There would be a point at which, if there were too much energy absorbed, the atoms would disintegrate, and the electrons

would fly off, but the energy required for this would be far more than the pyramid could concentrate. As the energy increases there is an increase in circulation and finally there is a highly saturated energy atmosphere in the wave bands around 10 nanometers. The energy would also radiate outwards from the corners of the pyramid".

A further interesting comment was found in the preface to the third edition of Davidson and. Aldersmith's book on the Great Pyramid. The religious symbolism of the displacement factor (the "hollowing-in" of the sides of the pyramid during construction) was discussed as follows: "This aspect of the structural allegory throws a flood of light upon an element of the scriptural allegory that clearly refers to the completion of 'all the building' . . . 'unto the measure of the fullness of the stature', required by the design. This concerns the symbolic '144000 . . . redeemed from among men . . . without fault before the throne of God' (Rev XIV, 1–5); 'Living stones' . . . without flaw for the perfect casing".

It is the symbolic 144000 that appears to have great significance in the ancient writings and it is interesting to note that this particular value has been connected in some way by other researchers to the enigma of the Great Pyramid. Considering that the angular velocity of light value in grid seconds is also 144000, as postulated in other sections of this book, it is obvious to me that the structure is in fact a measure of light, and by applying this value it should be possible to solve the mathematical puzzle which has been handed down to us.

After studying all this information, and volumes of other writings on the Great Pyramid, I felt I was at the stage where, by careful analysis, a complete breakdown of the structure could possibly be achieved in terms of light, gravity and mass harmonics. I finally succeeded in accomplishing what I set out to do after a few weeks of work on a twelve-digit electronic calculator, although the approach to the problem was not as straightforward as I had expected it to be. I present the solution as a purely theoretical one at this stage as I obviously cannot check the original structure to prove that my values are the correct ones. Hopefully, a very thorough scientific check will be carried out in the future by the Arab states.

I was surprised to find during my delving into all the writings I could find on the Pyramid that the measurements taken by each scientific expedition sent to probe the structure differed to a remarkable degree. The cause of this was mainly due to the fact that most of the outer casing stones have been stripped off over the years in order to construct other buildings around Cairo. Also, the top few feet of the Pyramid are missing, thus making it difficult to ascertain the exact completed dimensions. There is also the sneaking suspicion that some of the measurements were engineered to fit some pet theory. (I acknowledge that I also could be accused of this, but will set forth my theoretical set of measurements and await further scientific analysis in the future by independent groups to either confirm or deny my conclusions).

The measurements I finally settled on after a series of calculations and hours of study fall very close to some of the different values laid down by the various other researchers, so I feel that mine are just as likely to be valid as theirs—more so, in fact, as the basis I used was purely geometric and associated directly with the harmonic of the angular velocity of light.

Some of the various measurements found by others are:

Colonel Howard Vyse, son of General Richard Vyse, found a base side length of 764 British feet, and a casing stone angle of 51° 51′.

Frenchmen Coutelle and Le Père found a base side length of 763.62 British feet. By using the casing stone angle of 51° 51′ and the French base length of 763.62 feet, a theoretical height of 485.5 feet was calculated, assuming a special base-side to height ratio. From the book *The Source of Measures* by Skinner, the height as calculated by Professor P. Smyth (see *Our Inheritance in the Great Pyramid*) approximates a value of 486 feet 2 inches. Another calculation in this book gives a height of 486 British feet and a base side of 763.407 feet. In *The Great Pyramid—Its Divine Message* by D. Davidson and H. Aldersmith, various values are given: base 754.916 feet; height 484.416 feet—base 754.916 feet, height 480.833 feet—base 760.916, height 484.416 feet.

I decided to calculate my theoretical pyramid by assuming a square base with a diagonal of exactly 1080 geodetic, or grid, feet.

Great Pyramid Base Plan Measurements

A–B, B–C, C–D, D–A = 763.675303 feet = 9164.103636 inches

A–1, A–8, B–2, B–3, C–4, C–5, D–6, D–7 = 763.675303 inches

1–2, 3–4, 5–6, 7–8 = 7636.75303 inches

A–L–M–B–F–G–C–H–I–D–J–K–A
= Pyramid base perimeter = 36694 inches

A–C, B–D = 1080 feet

Q–S, T–R = 9048.903636 inches

U–Q, V–R, W–S, X–T 57.6 inches = 28.8 × 2 Harmonic of 2C

Q–E, R–N, S–O, T–P = 288 inches = Harmonic of 2C

U–E, V–N, W–O, X–P = 345.6 inches = 28.8 feet = Harmonic of 2C

Area of square base of Pyramid A–B–C–D
= 583200 square feet

Height of Pyramid = 5832 inches = 486 feet

A–L, M–B, B–F, G–C = 768.373485 inches

C–H, I–D, D–J, K–A = 768.373485 inches

DIAGRAM 12

Diagram showing theoretical base plan of Great Pyramid

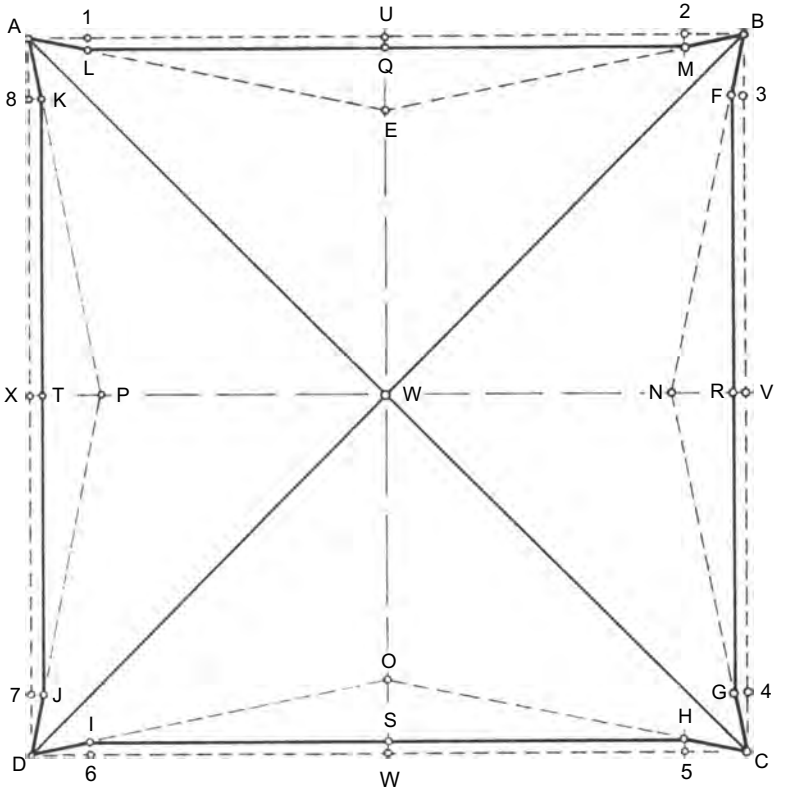
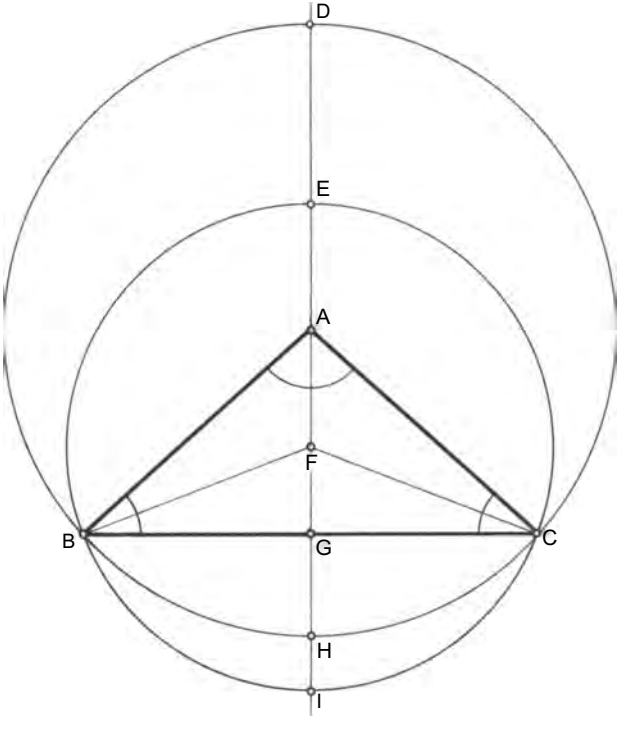


DIAGRAM 13

Diagram showing diagonal cross-section of Pyramid A-B-C.



Angle A–B–C = 42°
Angle A–C–B = 42°

Angle B–A–G = 48°
Angle C–A–G = 48°

A–B 726 feet
A–C 726 feet
B–C 1080 feet
A–G 486 feet
G–H 240 feet
B–F 6942 inches
C–F 6942 inches

Focal point of Pyramid at position "F"

A–F 3343.68 inches
G–F 2488.32 inches
G–I 371.14 feet
D–E 5113.68 inches
A–E 3598.32 inches
A–D 726 feet

726 = 26.94438 squared
1080 feet = Diagonal measurement of Pyramid base.
486 feet = Height of Pyramid.
240 feet = 2880 inches = 2C
6942 inches = Harmonic of the reciprocal of light = 144
2488.32 inches = 207.36 feet = 14.4^2 = Square of speed of light harmonic.
371.14 feet (Harmonic reciprocal of 37114 = 26944)

Note:

A. One geodetic foot is equal to $^{1}/_{6000}$ of one minute of arc on the earth's surface.

B. One geodetic foot is equal to one grid foot as derived from the world grid system described in my first two books, *Harmonic 33* and *Harmonic 695*.

C. One geodetic inch, or grid inch, is equal to $^{1}/_{12}$ of one geodetic foot or $^{1}/_{72000}$ of one minute of arc.

D. One geodetic, or grid inch, is equal to one pyramid inch.

E. One geodetic foot is equal to 1.0011 British foot.

F. All the measurements used in the calculation of the theoretical pyramid are in terms of geodetic, or grid, feet and inches and must be converted to obtain British measurement. (See Diagram 9). 1080 being half 2160, or a harmonic of 21600, the number of minutes in a circle.

I had already discovered via the Pythagoras right-angled 3, 4, 5 triangle that the harmonic of light and the harmonic of a circle are interlocked. With this diagonal the base side was 763.675303 geodetic feet. The area of enclosed base was found to be 583,200 square feet.

Progress so far looked very promising. As 5832 is equal to the number of inches in 486 feet it appeared that the height of the Pyramid in inches was harmonically equal to the area of the base in square feet. I decided to assume the values of 763.675303 feet base side and 486 feet height and carry on the probe to see what I could make of it. The next step was to find if there was any connection with the light harmonic of 144 or the reciprocal harmonic of 6944. I eventually found a base side to height ratio of 11:7 which appeared to be derived from very close practical multiples of the harmonic reciprocals of light.

$69.425 \times 11 = 763.675$ $69.425 \times 7 = 485.975$

The ratio could have a direct association with the mathematical sequence named the "Fibonacci series". The sequence is named after the Italian mathematician Leonardo of Pisa, who was known by his patronymic Fibonacci. In the series each term after the second being the sum of the two next proceeding terms. Thus 3 + 5 = 8; 5 + 8 = 13; and so on. An interesting fact

about the series is that 1 and 144 are the only terms that are a perfect square. Also the sum of any ten consecutive terms in a Fibonacci series is exactly eleven times greater than the seventh term.

Another interesting fact in connection with this series is that it produces the ratio which is known as the golden section or "*phi*" (φ). This is obtained by dividing any one term of the summation series by its predecessor. The higher the terms the closer to the ratio of *phi* which is taken as 1.618. This value will be shown to have significance in the construction of the King's Chamber. The diagonals of the sacred five-pointed star divide each other by this ratio and the same proportions have been found to occur throughout nature.

The base measurements of the Pyramid were the most difficult to calculate. Although I had decided on a base diagonal of 1080 geodetic feet which gave the value of 763.675303 geodetic feet for each base side from corner to corner, I now had to find the true measure of the base perimeter. This is altered considerably by the hollowing-in effect of the four sides. Weeks of trial and error on the calculator resulted in a base design which I feel is most likely to be similar to the original.

The clue to this problem was the so-called displacement factor of the Pyramid as given in the book by Davidson and Aldersmith. All sorts of occult reasons have been given for the displacement but there was no doubt as to its importance as it is built geometrically into many areas of the Pyramid. It is, for instance, the measurement of the north to south vertical axial plane of the Pyramid's passage system eastwards from the north to south central vertical plane of the Pyramid.

The values given, as measured by Professor Petrie, are as follows:

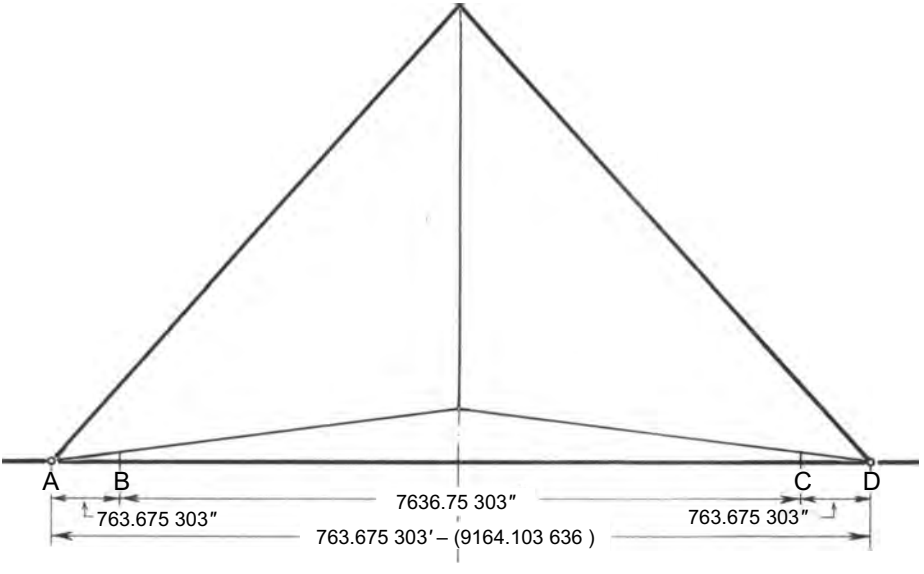
Entrance door on north face = 287.0 ± 0.8 British inch

Entrance passage end in natural rock	=	286.4 ± 1.0 British inch
Beginning of ascending passage	=	286.6 ± 0.8 British inch
End of ascending passage	=	287.0 ± 1.5 British inch

Due to the distortions in the Pyramid caused by the passage of time, the measurements are naturally slightly inaccurate, but

DIAGRAM 14

Diagram showing hollowing-in effect of Pyramid base.



A–D = 763.675303 feet Measurement of Pyramid square base side.

A–B = 763.675303 inches
B–C = 7636.75303 inches } Length of hollowed-in portions of base side.

763.675303 × 4 = 3054.701212 (square root = 55.2694)

3054701212 ÷ 6 = 509116869 = (254584345 × 2)

If the Pyramid had been constructed on the full base area, without hollowing, and full base-side length of 763.675303 feet, then the actual mass of the structure in cubic feet would have been 94,478,400. The mass loss due to the hollowing of each of the sides is, in modern times, a very difficult value to calculate, because almost all of the outer casing stones have been removed and only the inner core now remains. There is nothing left to show the outer shape of the original Pyramid to any degree of accuracy. We can now only speculate as to the original mass, but with the mathematical clues presented to us it may be possible to calculate an acceptable value. I believe that the original mass was engineered in such a way that the whole structure would resonate at a harmonic value tuned to the smallest particle of physical matter: the electron. If we assume then, that the original mass of the Pyramid was 92,418,400 cubic feet (geodetic) giving a mass loss of 2,060,000 cubic feet, an interesting series of values becomes evident.

94,478,400 – 92,418,400 = 2,060,000

92,418,400 = Harmonic of electron mass (theoretical)

2,060,000 ÷ 4 = 515,000 = Mass loss for each of four sides.

See measurements of King's Chamber.

by correlating all the knowledge I now had I felt it safe to assume that the original measurement used by the architects was 288 geodetic inches, which would be a direct harmonic of twice the speed of light, or 2C.

I applied various combinations of this harmonic and eventually found that if the base was inset by 57.6 inches the problem was partly solved, 57.6 being 28.8 × 2. This was not a simple process as I had to calculate the length of this inset portion on each side of the base and only a few original casing stones of the Pyramid remain, leaving few clues. By continual calculation, and gradually lengthening and shortening this portion of the base, I finally discovered a value for length which in itself is quite remarkable.

The full base width is 763.675303 geodetic feet and I found the hollowed-in portion to be harmonically associated with this value. The base width could be broken up into three harmonically associated parts as follows:

763.675303	geodetic inches
7636.75303	geodetic inches
763.675303	geodetic inches
12)9164.103636	geodetic inches
763.675303	geodetic feet

(See Diagram 14).

I was amazed that such a complicated number could be broken down so accurately into smaller segments which were harmonically similar. This fact alone convinced me that I was on the right track as I could not have invented a number like this in a thousand years, and further calculation eventually led me to a final base pattern as shown in Diagram 12. The construction values used to form the hollowing effect at base level were all derivatives of the 288 harmonic, being 345.6 inches equal to 28.8 feet; 57.6 inches equal to twice 28.8 inches; and 288 inches.

The completed base plan showed that the measurement of the full perimeter was 36,694 geodetic inches.

I was now convinced that all the geometric measurements of the Pyramid were tuned harmonically one with the other, and I could only be satisfied with the results if this was evident, and in all its parts.

The volume enclosed by the Pyramid, had it been constructed on the full square base, would have been 94,478,400 cubic feet in geodetic measure. The fact that the base sides were hollowed in suggested to me that the actual mass of the Pyramid had been engineered in such a way as to cause the whole structure to be harmonically tuned to some basic value connected with matter itself.

The search for this particular value was a lengthy one and the clue that led me finally to a possible solution was a study of the construction of the Grand Gallery. The height of the Gallery was the first indication that it was not just an elaborate access passage. Previous measurements made by scientific investigators pointed to some interesting possibilities. Slight buckling caused by the massive weight of the Pyramid above, settling over thousands of years, has now resulted in the ceiling of the chamber having an uneven surface. The present mean height was found to be 339.2 British inches, while heights taken at various individual points were 333.9 to 346 inches.

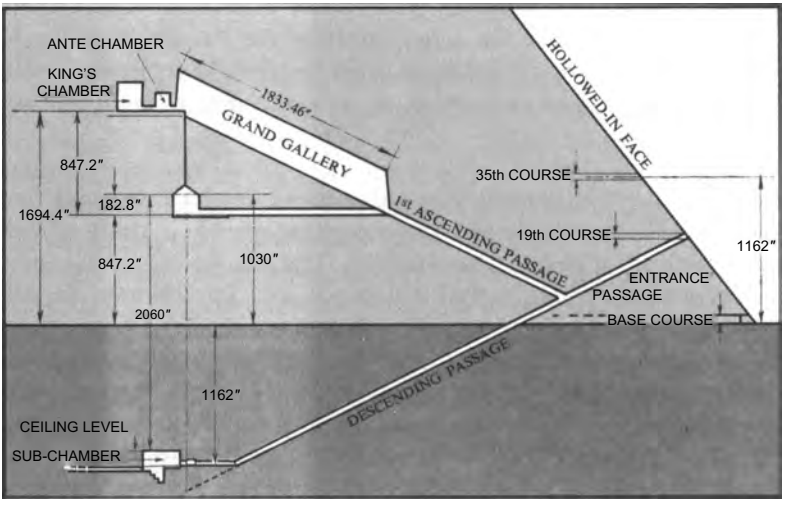
Equating the results I had obtained from all the other aspects of the structure, I am certain that the original height of the chamber was 345.6 geodetic inches, which gives a value of 28.8 feet. The height of the chamber was obviously equivalent to the harmonic of 288, or twice the speed of light. If it was in fact a cavity resonator, as I now suspected, then the length and all the other measurements should show indications of harmonics. The value that I calculated for length was extremely close to that of the one published in Davidson and Aldersmith's book, their value being 1836 inches, and my theoretical value 1833.46 geodetic inches.

A considerable amount of time was required to calculate a satisfactory value for the length of the Gallery. I eventually found that the amount of hollowing-in at the base provided the clue. If 57.6 (the amount in inches by which the base is inset) is divided by *pi* or 3.1415927, the resulting value is 18.334649. The harmonic equivalent of 1833.46 when applied to Gallery length would ensure that the wave-forms set up in the cavity were finely tuned to light frequencies.

A search of my physics books revealed that 1836 was the closest approximation the scientists have calculated to the mass

DIAGRAM 15

GREAT PYRAMID PASSAGES AND CHAMBERS



Suspect that passages are wave-guides and chambers are cavity-resonators.

Measurements in geodetic inches

1694.4″ = Pyramid base to floor of King's Chamber.

847.2″ = Floor of Queen's Chamber to floor of King's Chamber.
Floor of Queen's Chamber to base of Pyramid.

182.8″ = Height of walls in Queen's Chamber.

1030″ = Base of Pyramid to top of walls in Queen's Chamber.

1162″ = Base of Pyramid to floor level of passage to sub-chamber.
Base of Pyramid to level of 35th course.

1833.4649″ = Length of Grand Gallery (576 ÷ 3.1415927 = 183.34649)

847.2 × 2 = 1694.4 (Sines of angles in radians 9.755°
Radian 0.17025 = mass harmonic = Sine 0.16944

182.8 ÷ 144 = 1.26944 (144 = Light harmonic)

1162 ÷ 144 = 8.069444

1030 = Harmonic of measurements of King's Chamber.

ratio of the positive hydrogen ion, i.e. the proton, to the electron. If we dare to assume that the value of 1833.46 is the true geometric ratio then the wave-forms in the Gallery will also have a harmonic affinity with the structure of the atom, the building block of the universe itself. Pressing on with this train of thought I again consulted a book on atomic physics and found that the mass of the electron is given as 9.2×10^{-31} kilogrammes. I believe that, according to the clues presented by the Pyramid, the true value of electron mass, in the harmonic sense, could be taken as a standard of 9.24184×10^{-31} kilogrammes.

If this harmonic mass value is multiplied by 1833.46, the proposed mass ratio of the proton and electron, we have

$$9.24184 \times 1833.46 = 16944.5$$

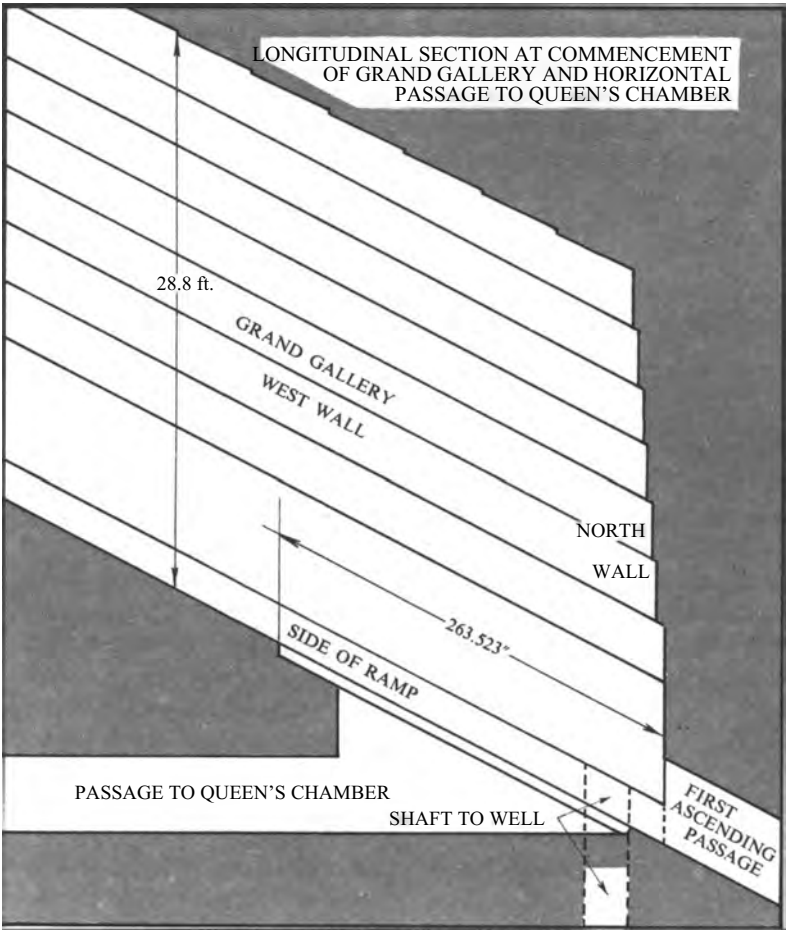
This appears perfectly logical to me, as a value of 16944 for the proton mass harmonic would lay the basis for a complete harmonic scale for the atomic table of elements. This has been demonstrated in another chapter.

I can almost hear the shouts of anguish from the scientific community, so I hasten to add that I set up these proposals only for discussion and experiment. I am sure that natural law is not a haphazard affair and that harmony is maintained throughout all physical processes.

The recess in the floor at the bottom end of the Gallery over the access passage to the Queen's Chamber also indicates a connection with the harmonic of light frequency. The length of the recess is given as 263.8 British inches in Aldersmith and Davidson's book. I believe that a very accurate check will show that this recess is 263.523 geodetic inches, which would equal the square root of the harmonic of the reciprocal of light, which is 694444. Investigators have been intrigued by the strange resonances in the chamber from any sounds made within it. Other measurements I have checked indicate a harmonic association with time. A complete book would be necessary to explore all the mathematical complexities of the passages and chambers to demonstrate how the structure has been engineered to produce harmonic wave-forms tuned to all the natural laws. I point out only a few of them to indicate the goldmine of information

DIAGRAM 16

Diagram showing harmonics of light associated with the Grand Gallery.



28.8 = Harmonic of "2C" = 288, or twice the speed of light.

263.523 = Square root of the harmonic of the reciprocal of light which equals 694444.

awaiting those who would carry out more extensive research.

Davidson and Aldersmith go to great lengths in their book to refute the idea that the Pyramid was constructed as a tomb and that it was built to serve some other purpose.

> The direct proof against a tombic theory is an engineering proof, and a definitely convincing engineering proof. The first ascending passage which leads from the entrance or descending passage into all the inner passages and chambers of the Pyramid, was, and is, closed by a tightly fitting granite plug or block at its lower or entering end. According to the exponents of the tombic theory, this plug was retained loose in the Grand Gallery or elsewhere in the Pyramid's upper system, until the death of the king. The mummy case, it is alleged, was then dragged up the ascending passages and deposited in the King's Chamber; after which the granite plug was released and permitted to slide down from the Grand Gallery into the first ascending passage to its lower end. Here according to the theory it came to rest, tightly wedged in, impossible to remove except by quarrying. In this position it effectively sealed access to the upper passages and chambers. There the plug still remains, sealing the access, and entrance to the first ascending passage behind the plug is gained only by means of Al Mamoun's quarried shaft, which was excavated about AD 800.
>
> Now the peculiar fact concerning this plug is that it would fit just as tightly the depth of the upper end of the passage as it does the lower. Any engineer, architect or constructional operative knows that it is impossible to slide or push a block of stone, however smoothly dressed and accurately squared, along a passage, after the passage has been completely constructed, if the block fits the passage tightly. It is a matter of experience in such circumstances that the block will jam in the passage unless it has at least three quarters of an inch clearance all round . . . It is therefore obvious that the first ascending passage was plugged as soon as the building of it began. . . . From this it is certain that the first ascending passage and the upper passages and chambers were not intended for any contemporary purpose, that they were not intended for the transit and reception of the royal or any other mummy, and that the Great Pyramid was not built as a tomb.

Another fact pointed out was that of the ventilation shafts provided for the King's and Queen's Chambers. The shafts were not needed during construction and fresh air is of no earthly use to a mummy. The shafts to the Queen's Chamber were not completely cut through the walls until 1872 by a Mr Wayman Dixon and a Dr Grant. The position of one of the shafts was only discovered because of a small crack in the wall and the remaining five inches was cut from the stonework. The position of the other shaft was calculated from the location of the first. They made the statement: "The ventilation shafts were provided for the future, when the Pyramid should be the subject of study by the people of a later civilisation".

The positioning and actual dimensions of the King's and Queen's Chambers indicate direct associations with the harmonics of light, gravity and mass.

The floor level of the Queen's Chamber is 847.2 geodetic inches from the base level of the Pyramid and 847.2 inches from the floor level of the King's Chamber.

$847.2 \times 2 = 1694.4$

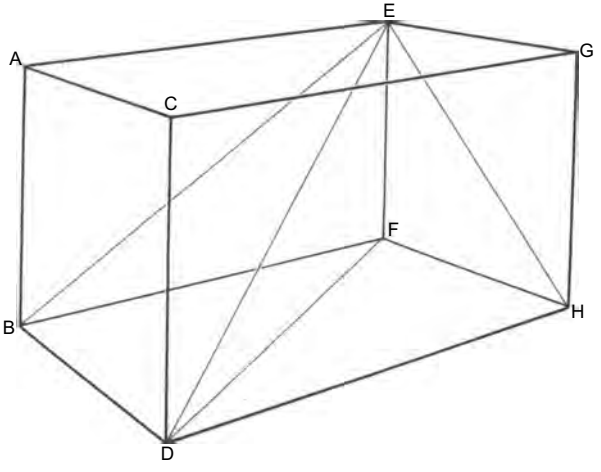
The 16944 harmonic is obviously a very important one if I am correct in postulating that atomic structures are built up from resonances associated with this value. Other research I have carried out indicates that this particular harmonic is evident during changes of state in matter. It is evident, for instance, when an element is transformed into the next higher, or lower, one.

The height of the walls above floor level in the Queen's Chamber check out at 182.8 geodetic inches. If 182.8 is divided by 144 (the harmonic of light) the answer we get is 1.26944. The universal harmonic equation, that I discovered in my original work, gives a value of 26944. I have not yet found the significance of the value on the left-hand side of the decimal point, but possibly this indicates a position on the harmonic scale.

The distance from the top of the Chamber walls to the base of the Pyramid is 1030 geodetic inches, which gives a mathematical connection with the dimensions of the King's Chamber. The 2060-inch measurement between the top of the walls and the ceiling of the sub-chamber beneath the Pyramid also mathematically associates the chambers.

DIAGRAM 17

Diagram showing measurements of King's Chamber and associated harmonics.



KING'S CHAMBER

$5.15 = 2.2694^2$
$51.5 \times 4 = 206$
$51.5 \times 8 = 412$
$230.4 = 28.8 \times 8$
$460.8 = 28.8 \times 16$

$206 \times 412 \times 230.4 = 19554508.8$ = Volume of Chamber in cubic inches.
$2694111111^3 = 19554490693$ = Harmonic of Chamber volume.

Circumference of sphere of diameter 515 = 1618 = golden section ratio.

Therefore the circumference of a sphere which would enclose the King's Chamber would be harmonically equivalent to the golden section ratio.

A–B = 230.4″
B–D = 206″
D–H = 412″
B–E = 472″ 39.33′
D–E = 515″
D–F = 460.8″
E–H = 309″

The Chamber also conforms to the measurements which give the ratio of the Pythagoras 3, 4, 5 triangle, the common factor being 103.

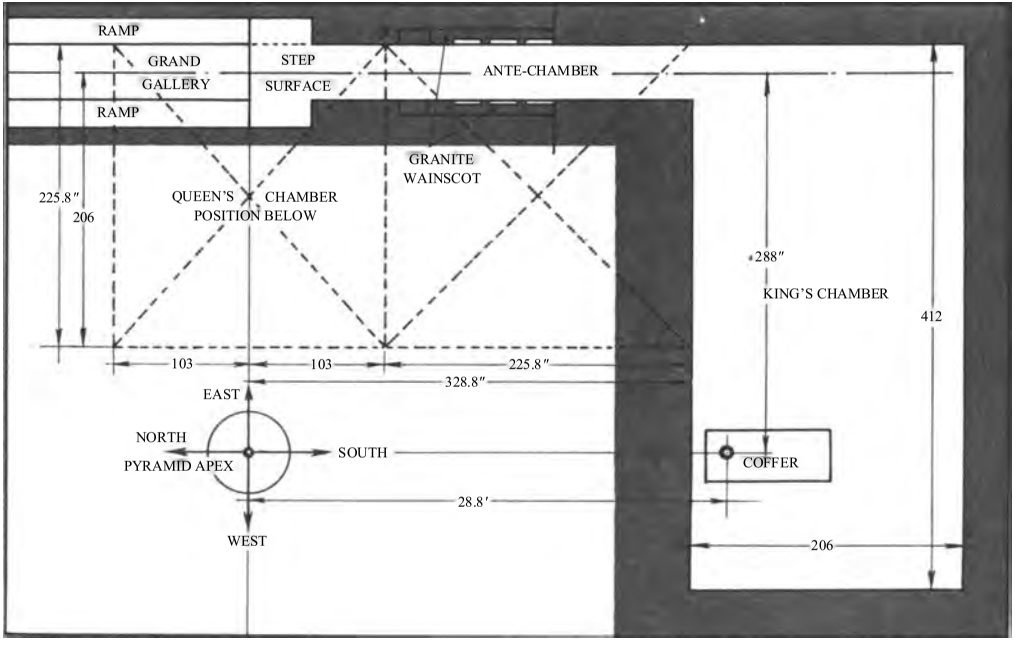
$103 \times 3 = 309$
$103 \times 4 = 412$
$103 \times 5 = 515$

As shown in another section of this book the Pythagoras right-angle 3,4,5 triangle incorporates the harmonics of light and the degrees and minutes of a circle.

DIAGRAM 18

PLAN OF KING'S CHAMBER, ANTECHAMBER, AND QUEEN'S CHAMBER

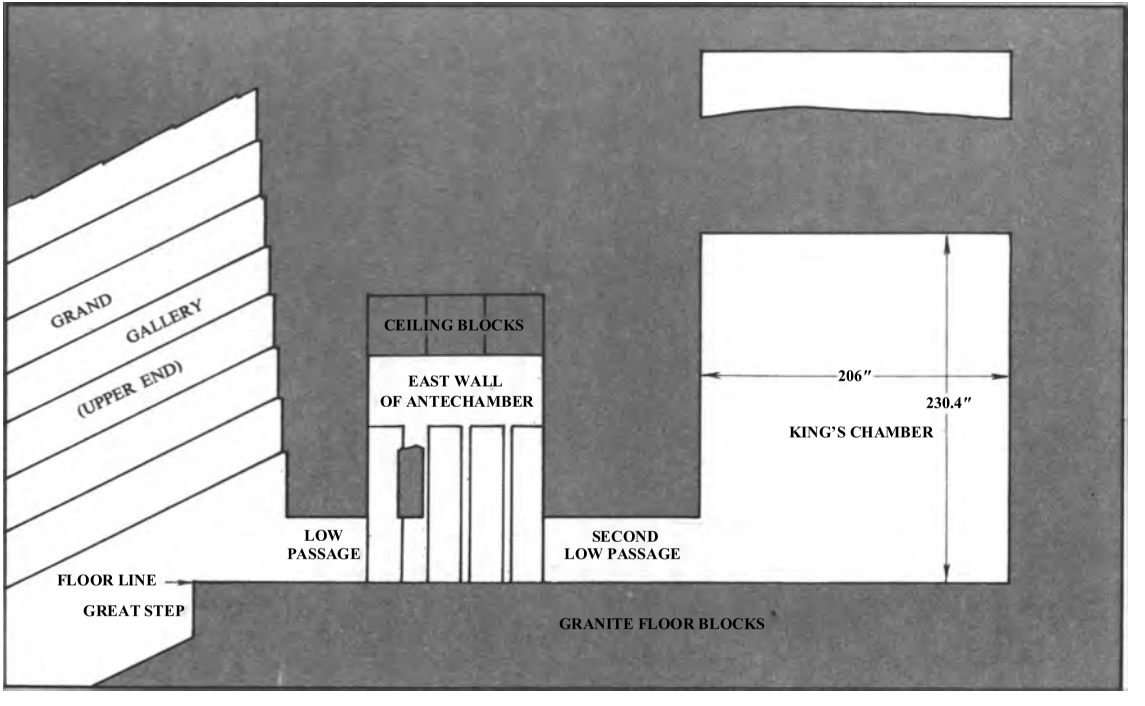
Diagram showing relationship of Coffer position to centreline of Pyramid, and associated light harmonics.
288 = 2C: Where "C" = Harmonic of the speed of light.



Grand Gallery 288″ displaced from centreline, from centreline of Pyramid. Head is then 864″ Coffer placed so that head is positioned 288″ or 72′ from focal point of Pyramid which is 792″ from centreline of Grand Gallery, and 28.8′ above level of the head position. See Diagram 20.

DIAGRAM 19

Diagram showing relationship of antechamber and King's Chamber to Grand Gallery.



The most important area is of course the Chamber. For whatever scientific reason the Pyramid was constructed, the forces built up by the geometric design were, and possibly still are to a certain extent, concentrated at one point in this Chamber. The technical reason for this is still an intriguing mystery and when the puzzle is finally solved I believe the human race will benefit immensely.

The Chamber itself has dimensions of: length 412 geodetic inches, width 206 geodetic inches, and height of 230.4 geodetic inches. The first amazing fact that I discovered was that the cubic capacity was 19554508.8 cubic inches, which happens to be the cube of the harmonic 2694. The cavity is tuned to the universal equation. The distance from a bottom corner of the Chamber obliquely to an opposite top corner is 515 geodetic inches. A sphere which would enclose the Chamber, with this diameter, would have a circumference with a harmonic value of 1618; the ratio of the golden section.

The values of a Pythagoras triangle, with sides in ratio of 3, 4 and 5, are also built into the Chamber, the dimensions being 515, 412 and 309, with a common factor of 103. I have shown in another section of this book that this particular triangle geometrically associates the harmonics of light and the circle.

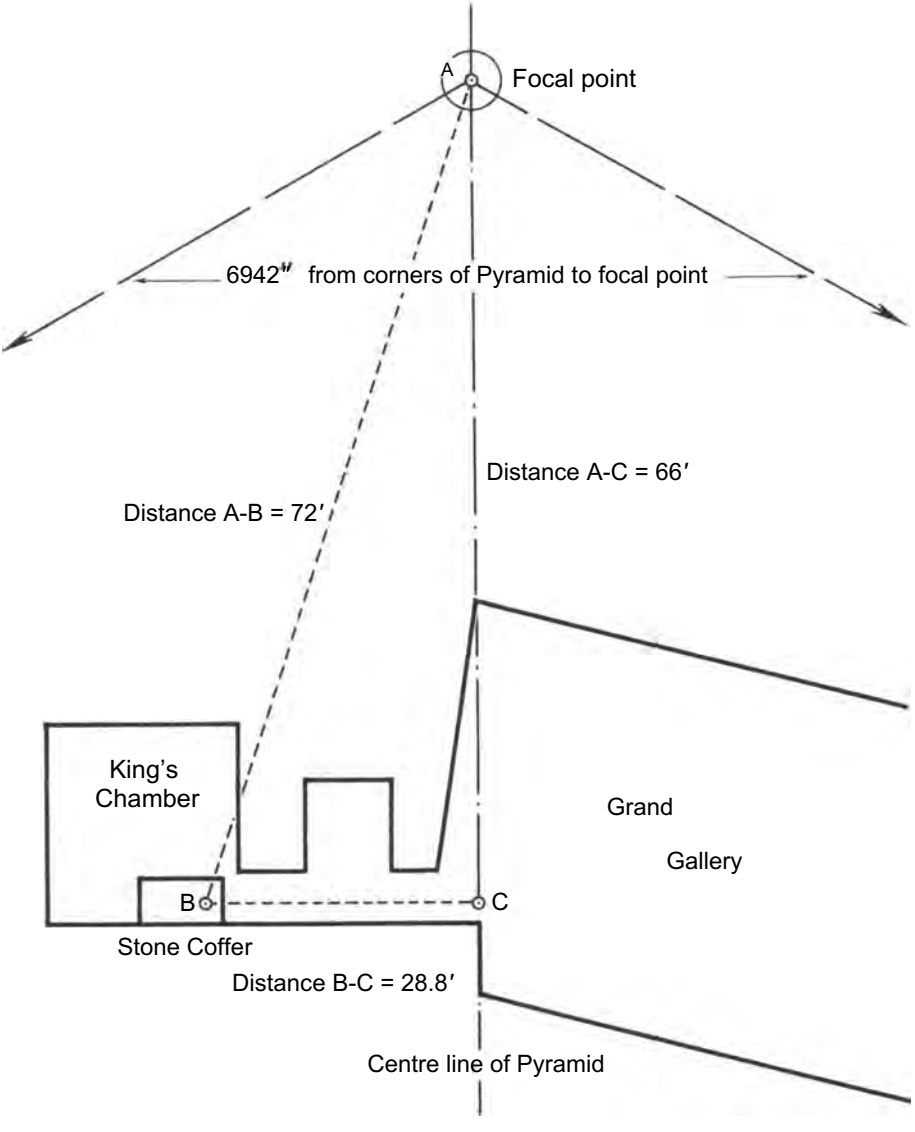
The position of the stone coffer in the Chamber is probably the most important indication of the scientific reason behind the construction of the Pyramid. Calculations will show that the concentration of natural forces set up by the Pyramid shape are directed towards a point which would be coincidental with the head position of a person reclining in the coffer (see diagrams).

The coffer has been moved slightly from its original resting place, but I found that if it were placed in the position as shown in the diagrams then the head position would be bombarded by wave-forms harmonically tuned to light, mass and gravity.

The point within the coffer is 28.8 geodetic feet from the vertical axis of the Pyramid and 288 geodetic inches displaced from the centreline of the Grand Gallery. The actual focal point of the Pyramid, as a whole, is on the central axis, 207.36 geodetic feet from the Pyramid base and 6942 geodetic inches from each base corner. 207.36 is 14.4 squared (144 is the harmonic of the speed of light) and 6942 is the harmonic reciprocal. The head

DIAGRAM 20

Diagram showing relationship of head position in stone coffer to focal point of Pyramid



position within the coffer is on the periphery of the sphere of resonance with a radius of 72 geodetic feet from the Pyramid focal point, the radius of 72 giving a half harmonic of the speed of light.

What can we infer from this? Only if we rebuild the Pyramid shall we ever know. If it were restored to its original condition, would those chosen to spend some time reclining in the stone coffer undergo some change in their conscious state and extend their knowledge of the universe? Would they suddenly find that they could communicate with other intelligences? We may speculate in many different directions but never be sure.

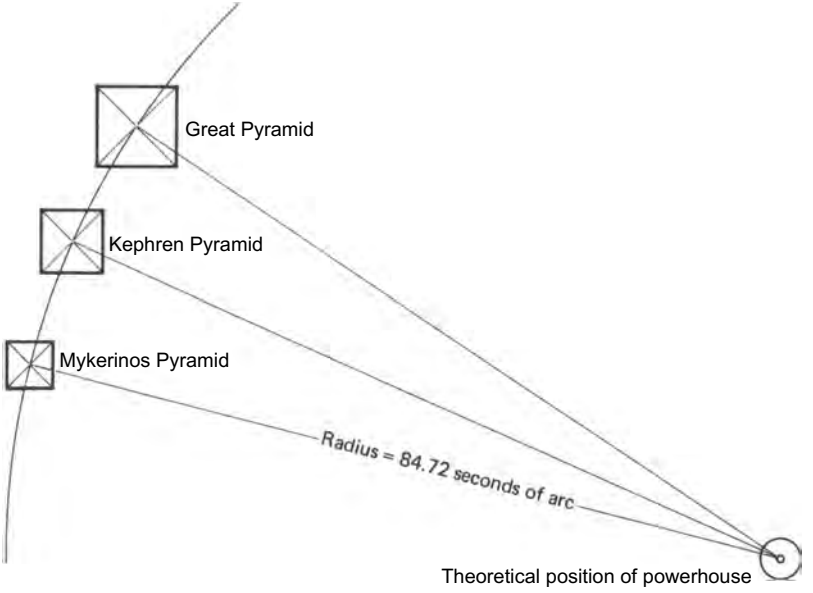
Another area of research would be the method of setting up resonances within the Pyramid. Did the actual shape cause the matter within to vibrate, or was some artificial means employed? A transmitter tuned to the appropriate wavelengths may have been employed, but nothing remains within the Pyramid to indicate that any machinery was employed for the purpose.

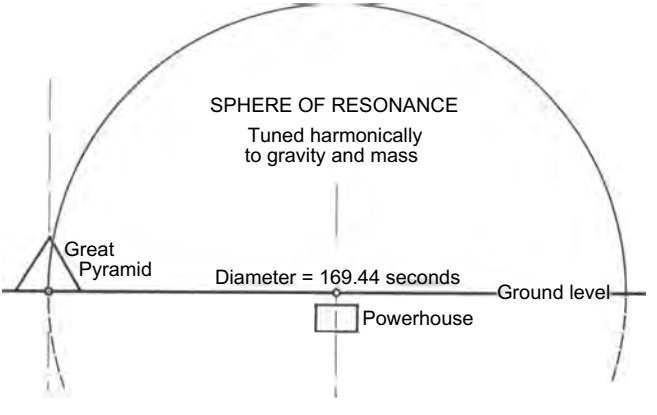
While studying the geometric arrangement of all the pyramids on the Giza Plateau I discovered a possible direction of research which might solve the method of activating the structures harmonically. The three main pyramids of Cheops, Chephren and Mykerinos fall on the circumference of a circle which has a diameter of 169.44 seconds of arc. This fact is fairly remarkable when we consider the significance of the 16944 harmonic. Is it possible, therefore, that at the central point of this circle, which is 84.72 seconds of arc (or 1.412 nautical miles) from the pyramids, a building lies hidden beneath the sand which may have housed the transmitting machinery to activate the pyramid complex? A transmitter at this point which broadcast a wave-pattern tuned to the appropriate light frequencies would set up a sphere of resonance which would simultaneously pass through the three pyramids on the periphery. The volume of the sphere, in cubic seconds of arc, when the surface passed through the head position of the coffer in the King's Chamber would be just on 2545600; the harmonic equivalent of half the polar square diagonal of the world grid, as shown in my previous works. (See Diagram 2).

Is it not worth the diversion of some research grants to expose the probability of this? Billions of dollars are spent on destruc-

DIAGRAM 21

Diagram showing geometric arrangement of pyramids on Giza Plateau.





tion: would it not be worth one billion to find out our position in relation to the cosmic community? I believe it's worth the gamble. . . .

My research into the pyramid complex is much more detailed than I have demonstrated at this stage, but I do not wish to complicate what so far has remained a reasonably simple explanation of my findings. For instance, the harmonic of time is evident in various combinations throughout the geometry of the Great Pyramid. In my earlier research, much of which I published in my first two books, I established that the geometric of time was based on a 27 period, as against a 24 period for standard time. Grid time is therefore in the ratio of 27:24 for one revolution of the earth. One grid hour is $^{8}/_{9}$ths of one normal hour. The grid hour is then divided into 60 grid minutes and 60 grid seconds. This means that a normal 24-hour period has a time value of 86400 seconds, and the equivalent 27-grid-hour period has a time value of 97,200 grid seconds. The harmonic of time in grid seconds is shown in various ways in the Pyramid structure, the most obvious as follows:

Pyramid height: 5832 geodetic inches, or 486 geodetic feet
Volume of Pyramid without hollowing: 94,478,400 cubic feet

$$5832 \div 60 = 9.72$$

$$944784 = 972 \times 972$$

$$486 \times 2 = 972$$

The other pyramids in the group are also constructed to dimensions which are harmonically associated with light, and the geometric relationships, one with the other, give triangulations which are harmonically related to natural forces.

I hope one day to visit the King's Chamber and probe the forces within the structure. If there are scientists in the world who have the vision and curiosity to carry out research along the lines that I have outlined I would urge them to make the necessary approaches to the Egyptian government, and their own governments, for funds to start a full-scale effort to solve the mystery of the pyramids.

I believe that this one project could be the most important in the history of man.

Information which came to hand during publication.
Note: New Zealand Herald, April 7, 1977.

American author Mr Charles Berlitz says a pyramid he claims to have discovered on the bottom of the sea in the Bermuda Triangle is larger than the famous Cheops pyramid in Egypt.

The pyramid was found at a depth of 900 metres. It had the same angle as the Cheops pyramid and the two structures are on the same latitude. He says that the pyramid is 180 metres high.

If Mr Berlitz' estimate of the height is reasonably accurate the equivalent in geodetic feet would be 582.7796. According to the evidence shown in this book I would tentatively suggest that the true height of the pyramid is 583.2 geodetic feet. If the angle is the same as Cheops then the measurement of the base diagonal would be 1296 geodetic feet. From each base corner to the centre would therefore be 648 geodetic feet. The harmonic of 648, according to my research, is a very important value. I await further information on this newly discovered pyramid with extreme interest.

NINE

TESLA—THE FORGOTTEN GENIUS

Some day I will harness Niagara Falls.—Tesla

THIS WAS THE STATEMENT made by the greatest electrical genius that ever lived, to one of his fellow students, in Budapest, in 1882. Nicola Tesla, born 9 July 1856, was then aged twenty-five and about to commence a lifetime career in the advancement of electrical knowledge which was to transform the world. If it were not for this one man, almost all modern-day electrical devices would not exist. It therefore seems strange that Tesla's name is known to so very few students in our universities. Many times I have mentioned Tesla to groups of students, during discussions, and been met with a blank stare, and the question—"Who is Tesla?"

His birthplace was a small village called Smiljan in the country now called Yugoslavia. His father was a minister in the local church. His mother was illiterate, but was known in the village as one who had a clever and inventive mind. It is said that she invented a considerable number of laboursaving devices, which could be used in the home. In later years Tesla stated that he inherited his inventive genius from his mother.

In one stupendous lifetime he gave us the whole foundation upon which to build the industrial empires of the world. It was he who invented the alternating-current motors that power every factory and production centre. He that designed the transmission systems that enabled power to be sent out over vast areas of countryside from a central generating source; the mass production systems and robot control that freed man from the slavery of labour; the basis for radio and radar, and remote control by wireless; modern lighting systems by use of high-frequency currents. The list is endless. No limit has been found to the electronic marvels which can be produced from the basic discoveries which issued from this one fertile mind. The whole world owes Tesla its future—and he has been forgotten, because he was a man who lived before his time.

Tesla was one of five children and even at an early age showed signs of a lively mind. He found that in many things he could surpass other boys of his own age, and this tended to isolate him from his contemporaries. He found it hard to find others to share in his interests and his intellectual attainments were often in advance of his years. Nevertheless, it seems that he still got up to all the other foolish escapades that young boys find to fill in their time—myself included.

One of the more dangerous ones was trying to emulate a bird. He discovered that when he breathed deeply he began to feel very light and buoyant. He considered that this discovery, plus the application of daring and an old umbrella, should suffice to free him from the pull of gravity and allow him to sail through the air with a certain amount of grace and dignity. He climbed up on to the roof of a local barn with the trusty old umbrella, breathed a few deep breaths and jumped off into space. The umbrella, not being aerodynamically designed, folded inside out and Tesla carried out a very undignified plummet to the ground. This cost him six weeks in bed, and much embarrassment.

His next accomplishment was the invention of a special frog-catching hook which was immediately copied by all his friends and helped to ensure the demise of most of the frogs in the village pond. Then followed a series of gadgets attractive to small boys, which included very efficient blowguns and popguns the size of small howitzers. Damage to local property caused the sudden end to the production of such warlike weapons, and punishment administered to the end of Tesla. At the advanced age of nine years he constructed his first motor. The prime mover of this wondrous machine was a formation of sixteen may-bugs. I suppose in a way they could have been termed galley bugs, as they had to perform in much the same way as the galley slaves of old to produce forward movement to the parts of Tesla's machine. The design was quite ingenious. He glued two long thin bits of wood together to form a cross, much like the arms of a windmill. Another thin spindle was attached to this with a very small pulley glued to it. This was connected by a belt made from cotton to a larger pulley on another thin spindle. The engines (or maybugs) were then glued four abreast, facing forward, on each of the four arms. The poor bugs, no doubt dismayed at such cavalier treatment, beat their wings at panic

speed and turned the windmill at a surprising rate. It was Tesla's intention to add more bugs, and thus more power to this truly remarkable machine, but a young friend decided to eat his jarful of spare bugs. This nearly caused Tesla to throw up, and he ended up destroying his invention in disgust.

The first stage of his schooling ended in 1870, when he was fourteen. The college he attended was called the Real Gymnasium, at Gospic. Already he was showing that he was well above the average in his abilities. He continued his studies at the higher Real Gymnasium, completing the full four-year course in three years. It was at this time that he became fascinated with physics and electrical experimentation and made the decision to devote his life to electricity. His father was anxious for him to enter the ministry and make a career of the church, but finally relented and promised Nicola that he would not prevent him from having his wish. The boy had overworked himself so much with his studies that he had weakened his body and been attacked, first by malaria then a severe bout of cholera. When nearly at death's door he whispered to his father, "I will get well again if you will let me study electrical engineering". He was promised by his father that he would attend the most advanced engineering school in the world. Tesla was nineteen when he began his studies in electrical engineering at the Polytechnic Institute at Gratz, Austria.

It was at the Institute that particular insights into the mysteries of electricity by Tesla first began to show themselves. A Professor Poeschl was demonstrating a gramme machine that could be used as either a dynamo or a motor. It was run by direct current and suffered a great loss of efficiency due to sparking at the commutator. (The commutator was necessary in all direct-current machines to change the flow of electricity at the correct instant to obtain rotary motion).

An argument developed between the professor and Tesla as to the design of the machine and the necessity to use direct current. Why cannot alternating current be used, suggested Tesla? This would eliminate the need for commutators and thus increase efficiency. The alternating current produced by the dynamos could be fed direct to the motors without the use of the reversing mechanisms.

The professor set up a special set of experiments to prove to

Tesla that his idea was completely impractical and made the statement: "Mr Tesla will accomplish great things, but he certainly will never do this. It would be equivalent to converting a steady pulling force like gravity into rotary effort. It is a perpetual motion scheme, an impossible idea".

Tesla had no answer to this at the time, but instinct told him that he was right and that some day in the future he would create such a machine. He continued his studies at the University of Prague concentrating on mathematics and physics. Always in the back of his mind was the idea of the alternating-current motor, and in his imagination he contemplated many different methods of building such a device, each time to fail.

On leaving the university Tesla obtained a position with the central telegraph office in Budapest. His genius for invention was not long in being noticed and in 1881 he was placed in charge of the new telephone exchange. It was while working for this company that he had the first flash of inspiration that was to rocket him to short-lived fame.

He was walking with a friend late in the afternoon in the city park of Budapest. It was February 1882, and a glorious day. Tesla was in a particularly happy frame of mind and gave vent to his joy by prancing about, and reciting poetry. Suddenly, he stopped in his tracks and exclaimed, "Watch me! Watch me reverse it". He appeared to be in some kind of a trance and his friend got quite alarmed at his antics, believing him to be ill. When Tesla finally calmed down he said, "No, you do not understand. I have solved the problem of my alternating-current motor". He then explained how he could see the whole concept in front of him, as if in a vision.

A rotating magnetic field which would clutch the armature of a motor with invisible fingers and cause it to rotate in harmony with it. A concept sublime in its simplicity. There and then, he drew a diagram of his motor in the snow to show his friend the technical aspects of his invention. This moment was the beginning of man's leap forward in the industrialisation of the world.

It was soon after this that Tesla was offered a position with the Continental Edison Company and spent much of his time improving the designs of the Edison direct-current motors. He also invented a system for automatically regulating the dynamos. He had been promised a substantial fee for all the new innova-

tions he had produced for the company, and when this was not forthcoming on demand, he immediately resigned. If the payment had been made at the time, Tesla would possibly have remained with the company and they would have benefited immensely from his genius.

It was suggested by a member of the company that Tesla should emigrate to the United States and work with Edison himself. There were not many opportunities left open to him in Europe, so in 1884 the young Tesla arrived in New York with four cents in his pocket and a mind bursting with new ideas. At this stage he had already worked out the whole alternating-current electrical system in his mind. This included step-up and step-down transformers for the most economical transmission of electric power, alternators, and alternating-current motors to supply mechanical power.

When he finally met the famous Edison, he gave him an enthusiastic description of his alternating current system, only to be told that he was "wasting his time messing around with such things". Edison was committed to the direct-current system and would not be swayed by the arguments put forth by Tesla. The whole of the Edison empire was built on the premise that direct current was superior to alternating current.

He spent almost a year working for Edison, again improving and inventing new techniques for the production of the Edison dynamos. Promises had been made to him, for the second time, to repay him adequately for his services. It is said that Edison had undertaken to pay $50,000 to Tesla when all the improvements were completed and the machines ready for production. When the time came for settlement, Edison treated the whole thing as a joke, so the disillusioned Tesla once again resigned.

It was now 1885. The fortune he was seeking in the promised land was not to come easily. He spent a year taking any menial job he could find just to keep himself alive. At one stage he even resorted to digging ditches. The foreman on the ditch-digging project was fascinated by the visionary descriptions of the new electrical innovations that Tesla related to him, and introduced him to an executive of the company named A. K. Brown. This man had enough faith to finance an experimental laboratory at 33–35 South Fifth Avenue, New York.

Tesla set to work and in a short time had a complete demon-

stration of his system ready for assessment. Included were alternating-current generators, motors, transformers, transmission lines and lights. After examination by Professor W. A. Anthony of Cornell University, it was announced that the Tesla system was equal in efficiency to any of the best direct-current machines then in production.

In 1887 Tesla applied for full patent rights for all of his electrical inventions. This was not approved by the patent office as they considered a single patent to cover such a great array of ideas was too unwieldy. They insisted that each important section be covered by a separate patent. Within the next six months seven USA patents were granted, and in 1888 twenty-two more were to follow.

The Institute of Electrical Engineers were now aware of this genius among them and invited Tesla to give a demonstration lecture on his alternating-current system in New York. This was a tremendous success. It was now recognised by the engineers of the world that there need be no limit to the transmission of power over long distances. The way was now open to develop the whole industry beyond men's wildest dreams.

Tesla was thirty-two when he was approached by George Westinghouse, who offered him one million dollars for all his alternating current patents, plus certain royalties. Tesla agreed, on the proviso that the royalty was to be one dollar per horsepower. Although this royalty was later withdrawn because of financial difficulties in the Westinghouse empire, a bond of mutual trust remained between these two great men for the rest of their lives. Tesla, at last, was being given the credit he deserved. America was his to conquer.

The General Electric Company, founded by the Edison interests, saw the writing on the wall and for their very survival had to negotiate a licence from Westinghouse to compete in the rapidly expanding electrical industry being built on the concepts of alternating current. No future remained for those who thought in terms of direct current only.

In 1890 the scientist Lord Kelvin was appointed chairman of the International Niagara Commission set up to determine the most efficient way of using the force of Niagara Falls to generate electricity. In 1892 Westinghouse won the contract for the installation of the 5000-horsepower hydro-electric generators.

The transmission system was contracted to the General Electric Company. The whole complex was designed according to the ideas of Tesla. The massive alternators with external revolving fields and internal stationary armatures were personally designed by him; the transmission line including the step-up and step-down transformers was constructed to Tesla's two-phase concept. His childhood dream had been fulfilled—he had harnessed the power of Niagara Falls.

Now in his early thirties Tesla was a wealthy man and felt free to devote more of his time to pure research. Throughout his life he gave no indication of any type of business sense. The mere making of money was never a primary object with him, and as long as he had the necessary funds to buy all the equipment he needed for his experiments he was happy. His whole makeup was that of the discoverer. He was at one with the environment itself and had a compelling, restless urge to pry all the secrets from nature and harness them, in order to help his fellow men progress towards a higher level of being. He had a vision of the cosmos as consisting of myriad octaves of electrical vibration. It was his desire to be able to understand the interplay of harmonic oscillations that formed the basis of the universe. The lower octaves he had already explored with his 60 cycle per second alternating current. He was now ready to reach into the unknown and probe into the regions of ultra high frequency of light and beyond.

For these experiments he constructed a great range of electrical oscillators to produce high-frequency currents, and coils tuned to set frequencies or wavelengths in order to discover the characteristics of each energy level and the particular uses to which each could be applied. He found that the interlocking harmonics were similar to the musical scale and that his coils responded not only to the transmissions of the original waveforms, but resonated at harmonic intervals above and below the original frequency. He had discovered the harmonic nature of matter.

He felt ready to take the next step in the practical application of his theoretical discoveries. During an interview in 1894 he said:

> You will think me a dreamer and very far gone if I should tell you what I really hope for. But I can tell you that I look

forward with absolute confidence to sending messages through the earth without any wires. I have also great hopes of transmitting electrical force in the same way without waste. Concerning the transmission of messages through the earth I have no hesitation in predicting success: I must first ascertain exactly how many vibrations to the second are caused by disturbing the mass of electricity which the earth contains. My machine for transmitting must vibrate as often to put itself in accord with the electricity in the earth.

He had previously addressed a meeting of the National Electric Light Association and had said, in part:

I am becoming more and more convinced of the scheme; and though I know full well that the great majority of scientific men will not believe that such results can be practically and immediately realised, yet I think that all consider the developments in recent years by a number of workers to have been such as to encourage thought and experiment in this direction. My conviction has grown so strong that I no longer look upon the plan of energy or intelligence transmission as a mere theoretical possibility, but as a serious problem in electrical engineering, which must be carried out some day . . . We now know that electrical vibrations may be transmitted through a single conductor. Why then not try to avail ourselves of the earth for this purpose? We need not be frightened of the idea of distance. To the weary wanderer counting the mile posts, the earth may appear very large; but to the happiest of all men, the astronomer, who gazes at the heavens, and by their standards judges the magnitude of our globe, it appears very small. And so I think it must seem to the electrician; for when he considers the speed with which an electrical disturbance is propagated through the earth, all his ideas of distance must completely vanish.

A point of great importance would be first to know what is the capacity of the earth, and what charge does it contain if electrified. Though we have no evidence of a charged body existing in space without other oppositely electrified bodies being near, there is a fair probability that the earth is such a body, for by whatever process it was separated—and this is the accepted view of its origin—it must have retained a charge, as occurs in all processes of mechanical separation. . . .

> If we can ever ascertain at what period the earth's charge, when disturbed, oscillates, with respect to an oppositely charged system, or known circuit, we shall know a fact possibly of the greatest importance to the welfare of the human race. I propose to seek the period by means of an electrical oscillator, or a source of alternating currents.
>
> One of the terminals of this source would be connected to the earth, as, for instance, the city water mains, the other to an insulated body of large surface. It is possible that the outer conducting air strata, or free space, contain an opposite charge, and that, together with the earth, they form a condenser of large capacity. In such case the period of vibration may be very low and an alternating dynamo machine might serve for the purpose of the experiment. I would then transform the current to a potential as high as it would be found possible, and connect the ends of the high tension secondary coil to the ground and to the insulated body. By varying the frequency of the currents and carefully observing the potential of the insulated body, and watching for the disturbance at various neighbouring points of the earth's surface, resonance might be detected.

For the experiments, Tesla chose a site on the outskirts of the town of Colorado Springs, Colorado. To the present day it has been thought that he selected this particular area just out of pure convenience. It was said that he was attracted by the dryness of the air which made it an excellent position for electrical experiment (violent electrical storms were common in the mountainous terrain around Colorado Springs and nearby Pikes Peak). But I believe this was not his prime reason, as will be demonstrated.

A large barn-shaped structure was built on the site to Tesla's specifications. It was just on 100 feet square, with sides twenty-five feet high. The roof then sloped upward to a high peak in the centre. A pyramid-shaped tower extended upward from the centre peak for a height of about eighty feet through which a mast was supported, reaching to a height of around 200 feet. On top of the mast was a copper ball three feet in diameter. A heavy duty wire was run from this copper ball down the mast, then connected to the large secondary coil of the electrical apparatus in the shed.

Power, which was supplied by a generator from the Colorado

Springs Electric Power Company a few miles away, was fed into a transformer system and stepped up to around 30,000 volts. This was then fed into a condenser. When the condenser reached capacity it discharged into a coil. This provided a continually oscillating high-frequency current. The primary coil was constructed of heavy wire on a circular fencelike arrangement about seventy-five feet in diameter. At the centre, the secondary coil, about ten feet in diameter, was wound with approximately seventy-five turns on a frame ten feet high. This inner coil was attached to a copper plate buried deep in the ground at one end and the other end connected to the copper ball at the top of the mast. The two coils were tuned perfectly with each other and created electrical resonances in the order of 100 million volts.

The whole system acted as a gigantic electrical pump, and enabled Tesla to cause massive discharges of energy to oscillate between the earth and the surrounding atmosphere. During his experiments with this fantastic piece of equipment he caused huge bolts of lightning to issue forth from the copper ball into the air, and manmade thunder to scare the living daylights out of the populace for miles around. He finally succeeded in burning out the generating plant at Colorado Springs due to the electrical overload placed upon it. This did not, of course, make him too popular with the local council, and he had to carry out extensive repairs to the plant before he was able to continue with his work.

He discovered that a rate of 150,000 oscillations a second, which produced electrical pulsations with a wavelength of 2000 metres, was necessary to produce the effects he required in the transmission of usable power through the earth.

He tested his theory of power transmission by lighting 200 incandescent lamps at a distance of twenty-six miles from the laboratory while the giant oscillator was operating—the energy being extracted directly from the earth. Each lamp required about 50 watts of power—a total of 13 hp. The claimed efficiency was 95 per cent.

The *Century Magazine* ran an article in the June edition of 1900 stating comments made by Tesla regarding his Colorado experiments: “However extraordinary the results shown may appear, they are but trifling compared with those obtainable by apparatus designed on these same principles. I have produced

electrical discharges the actual path of which, from end to end, was probably more than 100 feet long; but it would not be difficult to reach lengths 100 times as great. I have produced electrical movements occurring at the rate of approximately 100,000 horsepower, but rates of one, five or ten million horsepower are easily practicable. In these experiments, effects were developed incomparably greater than ever produced by any human agencies and yet these results are but an embryo of what is to be".

Tesla now had all the information he required to set up a station to transmit power to any point in the world, but before we move on to discuss his later activities let us have a closer look at the site he chose in Colorado where he tested all his theories and found positive proof of the harmonic structure of nature. In one of his unpublished articles he had stated in part that: "Long ago he [man] recognised that all perceptible matter comes from a primary substance, of a tenuity beyond conception, filling all space, the Akasa or Luminiferous Ether, which is acted upon by the life-giving prana or creative force, calling into existence, in never-ending cycles, all things and phenomena, THE PRIMARY SUBSTANCE, THROWN INTO INFINITESIMAL WHIRLS OF PRODIGIOUS VELOCITY, BECOMES GROSS MATTER; THE FORCE SUBSIDING, THE MOTION CEASES AND MATTER DISAPPEARS, REVERTING TO THE PRIMARY SUSSTANCE".

His experiments had shown him (as I had found in my own bumbling way) that matter was nothing more than a complex matrix of wave-forms locked together by harmonic resonance. The energy inherent in matter could be tapped if the secret of the geometric structure of the wave-forms could be broken. It appears that, by calculation, he had found that to tune in, so to speak, to this energy ball we call earth, he had to set up his apparatus on a particular point on its surface to ensure that the waves he proposed to transmit were in step with the natural medium. Colorado Springs was one of the ideal positions which was accessible to him.

A check on a position just outside the town limits will show a latitude and longitude value of 38° 44′ north, 104° 58.56′ west.

Latitude 38° 44′ = 2324 minutes of arc.

The 324 harmonic is inherent in this value, which in itself is significant, this being a harmonic of spiral π (3.24) and built into

the grid system discovered by the Russians. (Also found in the structure of the Great Pyramid).

$2324 \div 2 = 1162$

The value 1162 is likewise found in the structure of the Great Pyramid. (See Diagram 15).

$\sqrt{2324} = 48207883$

$\sqrt{48207883} = \underline{6943189685}$ (by calculator)

The harmonic of the light reciprocal is evident here.

Longitude 104° 58.56′ = 104.976

Harmonic 104976 = the square of 324

Note: Other interesting derivatives of the 324 harmonic are as follows:

The grid time factor 27 divided by 3.24 gives a value of 8.3333 recurring.

The square of 8.3333 is equal to 69.4444. Again the speed of light reciprocal.

The square root of 3.24 equals 1.8

$1.8 \times 27 = 486$ (see again the height of the Great Pyramid).

Tesla must have been well aware of the importance of the position he chose, but kept the reasons a closely guarded secret.

It is interesting to note that in this same area the military have chosen to set up the greatest electrical complex in the world—the North American Defence Command, NORAD. I am not telling tales out of school here because other publications have already pointed this fact out. The caption on a photo of the command post, in a publication which I have, free to any of the public who wish to buy one, states: "The main battle staff position in the combat operations centre (COC) at headquarters North American Defence Command (NORAD), Colorado Springs, Colorado, fronts a display area which allows observers to see the positions of airborne objects thousands of miles away. NORAD (COC) is hooked to all of NORAD'S subordinate units and to every major command post on the continent".

I am sure the Russians are also fully aware of the significance of this position and that they have similar military command posts set up on the Russian continent, so I am not releasing anything that could in the remotest sense be termed a military secret.

From a public point of view though, one of the reasons becomes clear why the work and discoveries of Tesla remain

suppressed: *the military application of his discoveries has been considered far more important than the welfare of the ordinary citizen of the world.*

Tesla was now ready to build his world power system. With a cash grant of $150,000 donated by the banker J. P. Morgan he was able to commence construction of his world wireless power, and broadcasting, station.

The site he picked for this station was to be on a tract of land owned by James S. Warden, a lawyer and banker. This was at Shoreham, in Suffolk County, Long Island. Tesla's idea was to create a radio city from which information would be broadcast on all wavelengths. I find once more that far better than my own inadequate description of the system, the reported words of Tesla himself give more of an idea of the magnitude of the enterprise:

> The world system has resulted from a combination of several original discoveries made by the inventor in the course of long continued research and experimentation. It makes possible not only the instantaneous and precise wireless transmission of any kind of signals, messages or characters to all parts of the world, but also the interconnection of the existing telegraph, telephone and other signal stations without any change in their present equipment. By its means for instance, a telephone subscriber here may call up any other subscriber on the globe. An inexpensive receiver, not bigger than a watch, will enable him to listen anywhere on land or sea to a speech delivered, or music played, in some other place, however distant. These examples are cited merely to give an idea of the possibilities of this great scientific advance, which annihilates distance and makes that perfect conductor, the earth, available for all the innumerable purposes which human ingenuity has found for a line wire. One far-reaching result of this is that any device capable of being operated through one or more wires (at a distance obviously restricted) can likewise be activated, without artificial conductors, and with the same facility and accuracy, at distances to which there are no limits other than those imposed by the physical dimensions of the globe. Thus, not only will entirely new fields for commercial exploitation be opened up by this ideal

method of transmission, but the old ones vastly extended.

The world system is based on the application of the following important inventions and discoveries.

1. The Tesla Transformer: This apparatus is, in the production of electrical vibrations, as revolutionary as gunpowder was in warfare. Currents many times stronger than any ever generated in the usual ways, and sparks over 100 feet long, have been produced by the inventor with an instrument of this kind.

2. The Magnifying Transmitter: This is Tesla's best invention —a peculiar transformer specially adapted to excite the earth, which is, in the transmission of electrical energy, what the telescope is in astronomical observation. By the use of this marvellous device he has already set up electrical movements of greater intensity than those of lightning, and passed a current sufficient to light more than 200 incandescent lamps around the globe.

3. The Tesla Wireless System: This system comprises a number of improvements and is the only means known for transmitting, economically, electrical energy to a distance without wires. Careful tests and measurements in connection with an experimental station of great activity, erected by the inventor in Colorado, have demonstrated that power in any desired amount can be conveyed clear across the globe if necessary, with a loss not exceeding a few per cent.

4. The Art of Individualisation: This invention of Tesla is to primitive tuning what refined language is to inarticulated expression. It makes possible the transmission of signals or messages absolutely secret and exclusive both in active and passive aspect, that is, non-interfering as well as non-interferable. Each signal is like an individual of unmistakable identity and there is virtually no limit to the number of stations or instruments that can be simultaneously operated without the slightest mutual disturbance.

5. The Terrestrial Stationary Waves: This wonderful discovery, popularly explained, means that the earth is responsive to electrical vibrations of definite pitch, just as a tuning fork is to certain waves of sound. These particular electrical vibrations, capable of powerfully exciting the globe, lend

themselves to innumerable uses of great importance commercially and in many other respects.

The first world system power plant can be put in operation in nine months. With this power plant it will be practical to attain electrical activities up to ten million horsepower and it is designed to serve for as many technical achievements as are possible without undue expense. Among these the following may be mentioned:

1. Interconnection of the existing telegraph exchanges or offices all over the world.
2. Establishment of a secret and non-interferable Government telegraph service.
3. Interconnection of all the present telephone exchanges or offices all over the globe.
4. Universal distribution of general news, by telegraph or telephone, in connection with the press.
5. The establishment of a world system of intelligence transmission for exclusive private use.
6. Interconnection and operation of all stock tickers of the world.
7. Establishment of a world system of musical distribution etc.
8. Universal registration of time by cheap clocks indicating the time with astronomical precision and requiring no attention whatever.
9. Facsimile transmission of typed or handwritten characters, letters, cheques etc.
10. Establishment of a universal marine service enabling navigators of all ships to steer perfectly without compass, to determine the exact location, hour and speed, to prevent collisions and disasters etc.
11. Inauguration of a system of world printing on land or sea.
12. Reproduction anywhere in the world of photographic pictures and all kinds of drawings or records.

The complex that Tesla planned to build on Long Island to bring all this to fruition was at that time like something out of some science-fiction drama. The tower for the transmitter was constructed on a wide circular base from strong wooden beams,

with all the necessary metal fittings produced from copper. It tapered towards the top and rose to a height of 154 feet. Surmounted upon this was a colossal hemispherical structure to form the electrode. The skeleton of this was also formed from wood and was to be sheathed in copper.

Not far from the base of the tower was a large brick building designed to house all the intricate machinery necessary to generate the massive amount of power required to run the station. Most of the equipment was of special design and Tesla had a great deal of trouble in having some of it manufactured. By 1902 the tower and the control building were completed.

Soon after this everything started to go wrong for Tesla. He had trouble getting the supplies of equipment he required and the financial backers, who up till then had been highly enthusiastic about the project, withdrew their support. The whole project crashed. A plan that Tesla had for creating a similar station at Niagara Falls for Canadian interests was also abandoned. He never fully recovered from this setback. He was never again to receive the money he needed to carry out large-scale experiments.

The reasons for this were, and still are, veiled in mystery, and in 1943 he died alone, in a hotel room in New York, a poor and almost forgotten man.

This small résumé of the life of Nicola Tesla does not give anything like the coverage of his achievement that it deserves. A large volume would have to be written to do anything like justice to this electrical genius who spent his life trying to give his fellow men a basis for a new and wonderful world. Why was he stopped? Would his dreams of a universal power system have allowed the poorer nations to advance too quickly? Could it be that the large international companies would have found it difficult to control such a system? Many questions—but no answers. I only hope that the students of the future will take time to study the works of Nicola Tesla and one day endeavour to complete his dream.

The reason for the location of the transmitter of the world power system at Wardenclyffe, in the Shoreham area of Long Island, would also have been because of the geometrics involved.

If the station were to operate at maximum efficiency, it had to be set up in a position that ensured the propagation of the electromagnetic-wave-forms was in perfect harmony with the atomic structure of the earth. The electrons in every atom of every element had to be resonated in order to transmit the energy being imparted.

During the first world war the Wardenclyffe Tower was dynamited, for some obscure reason, and all traces of Tesla's activity in the area completely obliterated. I have found it impossible to find the exact location of the tower site in this small area because of the scanty records left behind for public viewing. Quite probably, if I knew where to look, I could find precise data, but the task is certainly not made easy for researchers like myself.

The records do show, however, that the tower was built on a tract of land known as Wardenclyffe. Tesla was granted a small portion of this 2000-acre block. Rocky Point is mentioned as being not too far distant. I believe that this information is sufficient to track down the most likely spot for the tower:

Location of Shoreham 40° 57′ north/72° 55′ west
Location of Rocky Point 40° 57′ north/72° 53′ west

If we position the tower at 40° 57.6′ north/72° 50.856′ west, the following harmonic associations become evident:

The cotangent of the latitude angle 40° 57.6′ = 1.15199. If we treat this value as a harmonic of 115199 and divide it by 8 to find the electron equivalent (see chapter on atomic table of elements—harmonic series) we get 143998, which is only a fraction below the speed of light harmonic. The true theoretical value should be 143998.3056 (144000 – 1.6944 143998.3056). If this angle is expressed in minutes of arc we get 2457.6 minutes. This divided by 2 proves to be 1228.8, a value which incorporates the double light harmonic 288.

The tangent of the longitude angle 72° 50.856′ = 3.24. The 324 harmonic is immediately evident and checks with Tesla's discoveries in Colorado Springs (see also Russian Grid System).

In the early stages of my work I wondered why I could not obtain pure harmonics from all my calculations when dealing with physical substance—that is, exactly 144 for the light harmonic etc. Tesla stated that it was not possible to obtain

pure resonance or harmonic vibration, because if this were so then matter itself would disintegrate. A certain amount of resistance must be allowed for to prevent complete destruction of physical substance. (This problem is overcome, of course, in the construction of an atomic bomb).

Tesla had also discovered that the ideal frequency for excitation of the earth's atomic structure was 150,000 cycles a second. We can show by calculation that this too set up harmonic affinities with the electron formation within the atom. For this calculation we have to convert the wavelength, in metres a second, into geodetic feet a grid second (remembering that there are 97,200 grid seconds in a normal 24-hour period—see other sections of this book).

[For 150,000 cycles/second]

$$\text{Wavelength in metres} = \frac{300{,}000}{150.000}$$

$$= 2000 \text{ metres/sec.}$$

$$= 1777.7777 \text{ metres/grid second}$$

$$= 69991.25137 \text{ inches/grid second}$$

$$= .9593099146 \text{ minutes of arc/grid second}$$

$$= 5755.859487 \text{ geodetic feet/grid second}$$

Allowing for the double-matter/antimatter cycle $\Big\}$ (5755.859487×2) $= 11511.71897$ geodetic feet/grid second.

This treated as a harmonic, 1151171897, and divided by 8 to find the electron equivalent (similar to that of the geodetic location of transmitter), gives 1438964872, again very close to the pure light harmonic of 144. A very accurate computer check should show an affinity between the pure angular velocity of light, 144000 harmonic, and the harmonic of the proton mass 16944.

Other researchers would soon prove by calculation that the harmonic affinities produced with this specified wavelength, at

this particular location, would be ideal for power transmission on a world basis.

Another interesting point that I believe we should note is that Tesla insisted that 60 cycles a second would be the most efficient frequency to use in all the alternators and motors produced from his patents. There was much opposition to this from the manufacturers and practical men in the field, but Tesla won his point and, to this day, 60 cycles a second is the frequency used in alternating-current transmission.

Why? It has been found that the natural basic frequency of the earth is 6 cycles a second. Tesla has picked a harmonic of 6 which would be the most practical.

6 cycles a second = 5.33333 cycles a grid second

= 518400 cycles for one revolution of the earth, or 27 grid hours.

$$\sqrt{518400} = 720$$

$$= \frac{1440}{2}$$

$$= \frac{C}{2} \text{ harmonic}$$

$$\frac{518400}{16} = 32400$$

The 324 harmonic appears to be a basic value in connection with the natural frequencies of the earth.

TEN

THE HARMONICS OF WATER, TEMPERATURE AND SOUND

ONE OF THE UNIQUE CHEMICALS in the world is the odourless, colourless and tasteless substance which we call water. The molecular structure is bonded together so strongly that until recent times it was thought to be an indivisible element rather than a chemical compound. The molecule resists being broken up, more so than does that of many metals. It appears to be repelled from most organic substances, but has an affinity with nearly all the inorganic materials. The characteristics of water are at variance with almost all the rules common to other chemicals. Instead of contracting when it is frozen, it expands; and as a solid, being lighter than the remaining liquid, floats on top of it. As it freezes, each molecule bonds with four other molecules in a continuing process which forms a series of crystals strung together in elongated pyramid shapes. The interiors of the pyramid structures are hollow, thus creating a substance which is lighter per unit volume than the original material.

A particularly odd thing about water is its temperature at the freezing and boiling points. They are completely out of step with normal chemical theory. The temperature range is displaced when compared with that of other substances. Usually, chemicals similar to water in molecular structure descend the scale in regular order; that is, the lower the molecular weight, the lower and narrower the temperature range. As an example, if we compare water with hydrogen telluride, hydrogen selenide and hydrogen sulphide, it should be at the bottom of the scale. Instead, it is at the top.

If water followed the rules it should boil at about –91 °C, and freeze at about –100°C. But instead it is commonly known that it boils at 100°C and freezes at 0°C. It is lucky for all life on earth that this is so, otherwise water could not exist in its natural state as a liquid.

The reason for the queer behaviour of water, in the scientific sense, is put down to the geometric structure of the water molecule, which is made up of two hydrogen atoms and one of oxygen. The hydrogen atom consists of a nucleus surrounded by a single "shell", or zone of action. This shell is activated by a single electron, but there is room for two. The oxygen atom has two shells, with the outer shell activated by six electrons, but in this case there is room for eight. An atom with an unfilled outer shell is not stable, and is attracted to other atoms in order to share electrons and complete the shell to regain stability. The oxygen atom does this by combining with two hydrogen atoms, the two electrons from the hydrogen atoms filling the outer shell of the oxygen atom. In turn, two electrons from the oxygen atom combine with those of the hydrogen atoms. This sharing of electrons by the three atoms creates a very strong and extraordinary stability within the water molecule.

When the two hydrogen atoms link with the oxygen atom they form a lopsided molecule, the hydrogen atoms forming up on one side of the oxygen atom in a V-shaped configuration. Most textbooks to which I have referred give the angle between the hydrogen atoms as an approximation of 105°. Two technical books on chemistry in my library show experimental values of 104° 30′, and 104° 27′ respectively. It is fairly obvious from all my research that the *exact* angle is not known, although the angle found by experiment and calculation is reasonably close to being correct.

Because of this small doubt regarding the absolute angle I feel that I have a certain justification in setting forth my theories regarding the geometric arrangement of the water molecule. I believe that the molecule is arranged in such a geometric configuration that the system is harmonically tuned to the natural scale of temperature. Water, in other words, is so special that the temperature gradient can be regarded as the fundamental basis on which to build a scale of temperature tuned to all the natural reactions of physical substance.

Temperature has a direct relationship with the energy levels and basic wave-motion within the geometric atomic structure of all physical manifestations.

As water is the most essential chemical for all life, as we know it, I believe that nature has provided it a special place in the

scheme of things, which indicates its extreme importance. It does not fit comfortably into our tables because of its uniqueness, and future research, I'm sure, will reveal the many other secrets inherent in its structure.

The temperatures that are of immediate interest to us are the freezing and boiling points.

These have been laid down, either by accident or design, as 0° centigrade (or Celsius) and 100° centigrade. This was most fortunate, as a scale based on 100 degrees is a perfect foundation upon which to set up a harmonic series to the base 10. The harmonic temperature gradient between these two points is therefore fairly accurate. The fixed point which was chosen to set the constant for the standard temperature scale was what is termed the "triple point" of water. This is the temperature at which ice, liquid water, and water vapour coexist. This state can only be achieved at a definite pressure and is unique. The vapour pressure being 4.58 millimetres of mercury, the temperature at this standard fixed point is arbitrarily set at 273.16 degrees Kelvin (273.16°K), adopted in 1954 at the tenth general conference on weights and measures in Paris. The centigrade scale therefore indicates a temperature of 0°C at this point and the Kelvin scale +273.16°K. The value of –273.16° centigrade, or 0° Kelvin, is the theoretical point at which all energy levels approach zero. *Physics, Part I,* by Robert Resnick and David Halliday, states on page 532 that "the Kelvin scale has an 'absolute zero' of 0°K, and that temperatures below this do not exist. The absolute zero of temperature has defied all attempts to reach it experimentally, although it is possible to come arbitrarily close. The existence of the absolute zero is inferred by extrapolation. The student should not think of absolute zero as a state of zero energy and no motion. The conception that all molecular action would cease at absolute zero is incorrect. This notion assumes that the purely macroscopic concept of temperature is strictly connected to the microscopic concept of molecular motion. When we try to make such a connection, we find in fact that as we approach absolute zero the kinetic energy of the molecules approaches a finite value, the so-called zero-point energy. The molecular energy is a minimum, but not zero, at absolute zero".

An appended note states that "it is possible to prepare systems

that have *negative Kelvin temperatures.* Surprisingly enough, such temperatures are not reached by passing through 0°K but by proceeding through infinite temperatures. That is, negative temperatures are *not* colder than absolute zero, but instead are *hotter* than infinite temperatures".

A considerable amount of information is given in regard to the setting up of temperature scales for various branches of scientific research but it appears that it is very difficult to achieve absolute accuracy when measuring temperature in the extreme ranges.

The "International Practical Temperature Scale" was set up for the purpose of standardising temperature values in most countries of the world. A further extract from the *Physics* book states: "An international practical temperature scale (IPTS) was adopted in 1927 (revised in 1948 and again in 1954 and 1960) to provide a scale that can be used easily for practical purposes, such as for the calibration of industrial or scientific instruments. This scale consists of a set of recipes for providing the best possible approximations to the Kelvin scale. A set of fixed points and a set of instruments is specified to be used in extrapolating between these fixed points, and in extrapolating beyond the highest fixed point. Formulas are specified for correcting the basic temperatures according to the barometer reading. The IPTS departs from the Kelvin scale at temperatures between the fixed points, but the difference is *usually* negligible. The IPTS has become the legal standard in nearly all countries".

What this all boils down to is the fact that all the published temperatures for various physical reactions cannot be regarded as absolute values, when all the provisos and corrections are taken into consideration. The physical processes involved in measuring a temperature have a tendency to alter the temperature being measured.

So we see that all the various temperature scales set up by the different methods of scientific research can never be regarded as absolute in accuracy. The very best laboratories in the world, with the finest equipment available, can produce only very close approximations of absolute values. This is certainly no fault of the scientist as he must, by his very calling, only consider that which his instruments and experiments tell him. He must not *assume*.

On the other hand, the world produces mavericks like myself, who are not bound by the strict rules of science. I am perfectly free to assume and speculate. Possibly wrongly so, but intuition in certain directions sometimes produces results that no amount of scientific instrumentation could attain.

For this reason I set forth my interpretation of an absolute temperature scale based on factors which interconnect all the harmonic relationships found in my previous research. I feel that universal harmonic theory can encompass all things and that definite relationships exist between all physical processes. Time will prove whether I am right or wrong in my assumptions, but I feel that research in this direction could be of value.

I believe that the scale of temperature is a natural harmonic series which has very definite and unchangeable values at the fixed points where changes of state in matter occur. This harmonic series I believe to be constant through the range of the matter and antimatter cycles of the physical processes discussed in other sections of this book. I am sure that the fixed point that is termed absolute zero is nothing more than the gateway between physical matter, as we know it, and non-physical or antimatter which exists in the universe. The temperature gradient decreases in our known universe to a fixed point, then increases once more up the harmonic scale within the negative universe, in a pendulum-type interaction.

The basis of the series appears to be tuned to the temperature gradient between absolute zero and the critical point of water. The critical point is defined as the specific temperature above which a substance can exist only in the gaseous state, no matter what pressure may be applied. The value for water is given as 647.29 degrees Kelvin, or 374.13 degrees centigrade.

I suggest that the true value of this point is exactly 648°K above absolute zero, in terms of pure energy. This value is equal to 200 times spiral *pi* ($200 \times 3.24 = 648$) or the harmonic of spiral *pi* ($324 \times 2 = 648$). The height of the Great Pyramid in geodetic inches divided by 9 is equal to 648 ($5832 \div 9 = 648$). The square root of 648 is harmonically equal to values found in my original work ($\sqrt{648} = 25.455844$). When multiplied by 3 we get ($648 \times 3 = 1944$). The harmonics 324, 648 and 1944 have been found in the mathematical structure of the Russian grid system. When dealing with the atomic table of

elements as a harmonic series the number 648 was also evident. It seems to be so universally intertwined with all the other research that I have carried out that I'm positive it has a place in the scale of temperature.

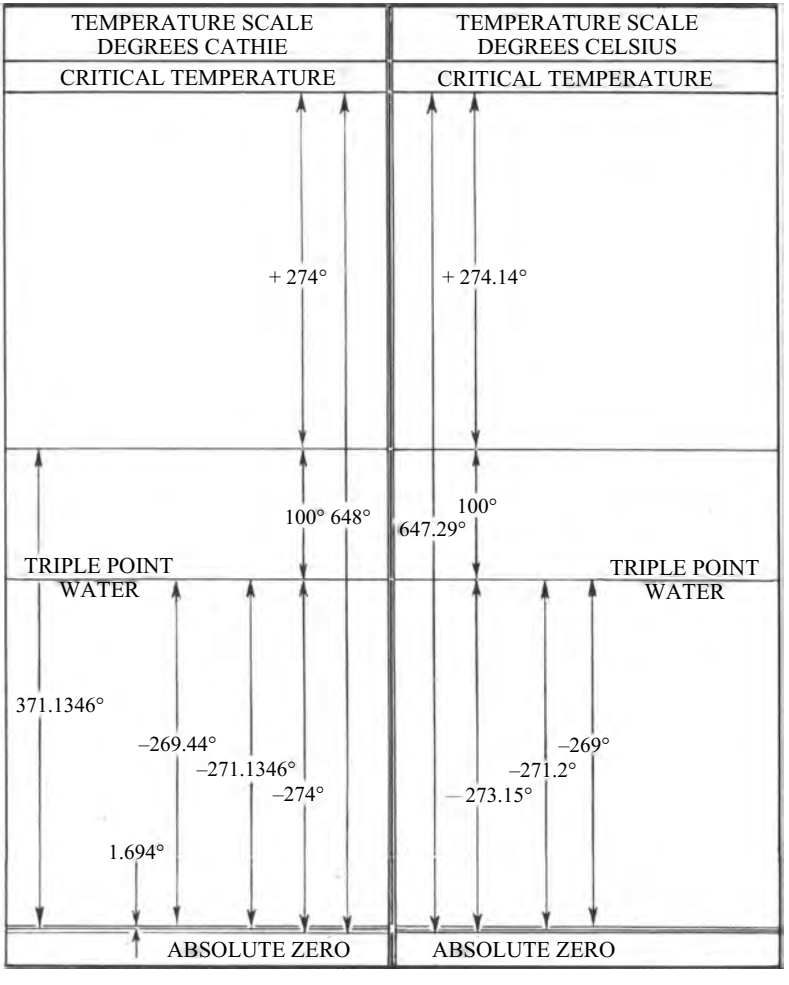
We can now come back to the geometric structure of the water molecule, and speculate on the true relationships of the oxygen and hydrogen atoms. Something within this structure has made it unique. That something I maintain to be the V-shaped angle made by the hydrogen atoms. According to experiment, the angle appears to be somewhere between 104° 27′ and 104° 30′.

I would suggest that the true angle is 104° 29.4′, which is equal to 6269.4 minutes of arc. This is very close to the experimental angle of 104° 30′ and immediately shows a harmonic affinity with the value 2694. If 90° is subtracted (104° 29.4′ – 90° = 14° 29.4′) then the remaining angle is equal to 869.4′. Again the 694 harmonic is evident. If this angle alters fractionally during a change of state, it is possible that the angle enlarges slightly towards the general angle of 105° given in most publications (104.49° + .486° = 104.976°). The harmonic in this case would be 104976 which is the square of 324 (324 × 2 = 648). The geometric arrangement of the molecule would assure it of special properties if it were in either one of these configurations.

In Table 1 I have set up a comparison to demonstrate the relationships between the standard scale of temperature and the Cathie theoretical system. I propose that the Cathie system indicates more directly the reason for certain physical manifestations due to temperature, particularly the reaction of helium at extremely low temperature. In the *Life* book I have on the properties of matter, there is a section dealing with substances that have been frozen to supercold temperatures. One of the substances is helium, and the statement is made: "The outlandish antics of liquid helium . . . Though named after the hottest spot in the solar system (*helios* is Greek for the sun) helium gas can be turned into the coldest of fluids. It liquefies only at the fantastically low temperature of –269° centigrade. When lowered two more degrees, it deviates so radically from its usual behaviour that scientists renamed it helium 'H'. Among its many weird tricks, it makes metal magnets float in the air, and casts a cold

TABLE 1

Showing comparison between the Cathie temperature scale and the Celsius temperature scale.



Absolute zero: The temperature at which a body would be wholly deprived of heat, and at which a perfect gas would exert no pressure.

Triple point of water: The temperature at which ice, water and water vapour are in equilibrium.

Critical temperature: That temperature above which it is not possible to liquefy a gas by the application of pressure alone. To liquefy a gas it must be cooled below its critical temperature before being compressed.

eye on gravity, flowing as if nothing at all were resisting its motion".

A photo shows a small lead disc immersed in a bath of liquid helium. The lead disc becomes a super-conductor, and when a small bar magnet is placed near it, the bar induces a current in the lead. Meeting no resistance, the current turns the lead into a powerful electromagnet that keeps the bar hovering above it.

The temperature points at which the liquefaction of helium "I" and helium "II" occur, are given as –269° and –271°. I believe that allowing for temperature corrections and the slight variation of the standard scale from the Cathie Scale, the absolute temperatures will be found at values of –269.44° and –271.134°. Helium "I" would then form at the harmonic of 26944 and helium "II" at the harmonic of 371134 (when the temperature difference is taken from that of 0° centigrade and 100° centigrade respectively, the freezing and boiling points of water; the harmonic intervals being when changes of state occur). The reciprocal of 371134 is 26944. The interval between these two points would be 1.694 degrees (1694 being the harmonic of the proton). (See Table 1).

The sudden switch to a reciprocal value at –271.134° centigrade would explain the sudden occurrence of superconductivity and magnetic repulsion.

Air becomes a pale blue liquid at a temperature of —194.4° centigrade. If this occurs at the same point on the "harmonic scale" then we have another interesting relationship. The harmonic 1944 has been discussed in other sections (1944 ÷ 3 = 648).

There are many signposts indicating to us that temperature is a critical factor to be reckoned with when attempts are made to bring about certain physical reactions in matter. My research shows me that the modern alchemist would need a thorough knowledge of the harmonic relationships of elements, temperatures, electrical frequencies and sounds before he could successfully bring about transformations in matter. The evidence strongly suggests that only very small amounts of energy would be required to transform elements, or carry out any number of wondrous experiments with physical substance, if all the factors necessary to cause the reactions were vibrating in resonance, one with the other.

We shall now have a look at sound in relation to the general theory of harmonic affinities. Throughout our lifetime we are being bombarded by sounds. Even if we stood in a windless desert and thought we were being subjected to absolute silence, we would be engulfed in sounds, even though so minute that we would not be able to perceive them. Even the tumbling of a grain of sand produces a sound.

The varieties of sound are limitless and we, as humans, can be influenced to a remarkable degree by the type of sounds that we are subjected to. Pleasant music to one may be regarded as a discordant noise by another. The conception of music of a Chinese, or Japanese, is quite different, for example, from that of a European. The music of one is no doubt slightly irritating to the ear of the other. Although music could be termed noise, or noise could be termed music, according to the taste of the listener, there is nevertheless a subtle distinction between the two. Noise could be regarded as a cacophony of sounds void of regularity, whereas music could be termed the art of combining regular sounds of definite pitch, which are rhythmic and harmonious to each other, in order to please the sensibilities.

When judging what is, and what is not, musical to the ear, it comes down to a matter of convention. The quality or pleasantness of any particular piece of music would be considered to be very different depending on the nationality of the judge, but fundamentally the fact which would influence the choice would be the mathematical relationships of the sounds.

The basis of the mathematical relationship in sounds is the octave, which reveals a very regular and precise periodicity based on the phenomenon of pitch variation. The pitch of a sound is that property that makes it appear to be higher or lower than other sounds.

The pitch of a sound is relative to the frequency of the vibrations from which it is produced, and is measured in the number of complete vibrations in one second. The pitch is raised or lowered by increasing or decreasing the frequency. Each note on a musical scale is recognised by the distinct frequency accorded to it. Once a note has been designated by a certain pitch, all other notes have a definite mathematical relationship to the original. The credit for the discovery of the mathematical ratios must go to our old friend Pythagoras. It is said that he made use

of a stretched string divided into twelve equal parts to investigate the mathematical relationships between musical notes. He found that if a particular note or musical sound was produced by a specific string length, a similar note of the next higher octave was produced by halving the string length. A note of the next lower octave was produced by doubling the string length. An interval of eight notes is termed an octave. The interval is the difference in pitch between the first and the eighth note. There are seven individual notes which are designated A to G respectively. The first and eighth notes are designated by the same letter but are distinguished from each other by a small dash beside the letter.

For some obscure reason, octaves have been lettered commencing with the letter C. So a scale of notes would be indicated by the series

C D E F G A B C′ octave one

C′ D E F G A B C″ octave two, and so on.

Notes which are an octave apart sound similar, rather than as completely different notes, the difference being that of pitch. The pitch is the property by which a note appears to be higher or lower than other notes, and is directly related to the number of vibrations per second, or frequency, from which it is produced.

If a string is divided at the two-thirds mark, the pitch is raised by a fifth, an interval embracing five notes. If divided at the three-quarter mark, the pitch is raised by a fourth, an interval embracing four notes. The ratios are mathematically fixed and with others form the natural or diatonic scale.

If the pitch of any note is known it is possible to calculate the pitch of any other note in an octave by use of the standard mathematical ratios. The international standard for pitch is taken as 440 vibrations a second for treble A. The standard scale is then calculated from this frequency. With musical instruments such as the piano, where the actual number of notes that can be produced is fixed and limited, the natural scale has been extended by the addition of semitones. The scale is mathematically adjusted to produce a chromatic, or tempered, scale of twelve different notes (there being thirteen notes of equal temperament in an octave). The constant ratio between the pitch of the consecutive semitones is given as an approximate figure of 1.05946. This is interesting from the point of view of my own research.

TABLE 2 SHOWING COMPARISON OF NATURAL AND CATHIE SCALES

Table of Natural and Tempered Scales				Table of Cathie and Tempered Scales				Cathie Scale in Normal Time	
Frequencies				Frequency in Grid Time				Oscillations per Second	
RATIOS	NOTES	NATURAL	TEMPERED	RATIOS	NOTES	NATURAL	TEMPERED	NATURAL	TEMPERED
1:1 1.0	C′	264	261.6	1:1 1.0	C′	144	143.888	162	161.874
	C#		277.2		C#		152.443		171.498
8:9 1.125	D	297	293.7	8:9 1.125	D	162	161.507	182.25	181.695
	D#		311.1		D#		171.111		192.499
4:5 1.25	E	330	329.6	4:5 1.25	E	180	181.285	202.5	203.945
3:4 1.333	F	352	349.2	3:4 1.333	F	192	192.064	216	216.072
	F#		370		F#		203.484		228.919
2:3 1.5	G	396	392	2:3 1.5	G	216	215.584	243	242.532
	G#		415.3		G#		228.402		256.952
3:5 1.667	A	440	440.0	3:5 1.667	A	240	241.983	270	272.23
	A#		466.2		A#		256.371		288.417
8:15 1.875	B	495	493.9	8:15 1.875	B	270	271.615	303.75	305.566
1:2 2.0	C″	528	523.3	1:2 2.0	C″	288	287.776	324	323.736
Total 1692									

This was the first indication that sound could have some harmonic relationship with physical matter, and therefore light harmonics.

By intuition, I felt that the natural scale, should it be tuned to harmonics directly associated with light frequencies, would indicate some positive mathematical relationship with those of physical matter. Accordingly, I decided to calculate the frequency values of an octave of notes based on a C value of 144 vibrations per grid second. I found, much to my satisfaction, that this full octave of sounds showed a remarkable affinity with the atomic structure of matter when the combined frequencies of the full octave were added up. The sum total of all the frequencies was 1692 vibrations per grid second (see Table 2). If eight notes were broadcast at these particular frequencies, the resultant sound should theoretically resonate in very close harmony with the proton in the atomic nucleus.

The controlling frequency would be that of the fourth note, F. In the table this has a value of 192. If this note were varied by the value of 2.4 (that is a minimum frequency of 192 and a maximum of 194.4) then complete control of the resonating system could be obtained. When the frequency of this one note reached a value of 194.4 the sum of the eight separate frequencies would be 1694.4, the exact frequency of the proton. When the eight notes hit this value disruption of physical substance could possibly occur.

The frequency of 194.4 cycles per grid second would be harmonically equal to the value 1944. This particular value has already been discussed, and it appears more than coincidental that this would be the controlling factor in the table.

This is the first step in the direction that research should take in attempting to discover the importance of sound in the manipulation of physical processes in matter. I feel positive that elements could be constructed by the simple method of bringing together certain combinations of lesser elements in an environment of harmonically tuned sounds and temperature. Particular effects could also be produced by similar methods. For instance, the production of pure electricity: a very small input of energy could, in theory, produce a tremendous output of usable power.

This very fact is hinted at rather strongly when we check back through some of the ancient writings. Desmond Leslie points to

this in the book *Flying Saucers Have Landed*. He quotes translations from the ancient Sanskrit records and says that the ancient scribes made a definite distinction between myth, which they called *daiva*, and factual records which they called *manusa*.

It seems that flying machines were quite common in days long ago, and that the engineers and scientists of the time had a far better understanding of propulsion systems than they have now. Apparently, the *manusa* writings give a reasonably clear description of how the flying machine, or *vimana,* was constructed.

According to the *Samarangana Sutradhara*, the machines were made of light material and were very strong and streamline-shaped. The metals used were iron, copper and lead. They had a considerable operational range and were propelled by jets of air. They could ascend or descend vertically and cruise at high speed for many thousands of miles.

The Sanskrit *Samarangana Sutradhara* informs us that the "manufacturing details of the *vimanas* are withheld for the sake of secrecy, not out of ignorance. The details of construction are not mentioned for it should be known that . . . were they publicly disclosed the machines would be wrongly used. Strong and durable must the body be made like a great flying bird, of light material. Inside it one must place the MERCURY ENGINE with its IRON heating apparatus beneath. By means of the power latent in the mercury which sets the driving whirlwind in motion, a man sitting inside may travel a great distance in the sky in a most marvellous manner . . . Similarly by using the prescribed processes one can build a *vimana* as large as the temple of the God-in-motion. Four strong mercury containers must be built into the interior structure. When these have been heated by controlled fire from iron containers, the *vimana* develops thunder power through the mercury. And at once it becomes a pearl in the sky . . . Moreover, if this iron engine with properly welded joints be filled with mercury, and the fire be conducted to the upper part, it develops power with the roar of a lion".

Mr Leslie points out that the esoteric books list some forty-nine different types of fire, the majority of these being of the electrical and magnetic variety. The flying machines can be invisible and move in silence. If sound is to be used there must be great flexibility of all the moving parts which must be made

of faultless workmanship . . . it can be moved by tunes and rhythms. . . . As an alternative means of propulsion, it can be driven solely by the power of sound, tunes and rhythms.

I had read these transcripts from the ancient Sanskrit writings some years ago in various publications, but had never got around to trying to apply the knowledge gained from my own research to the methods of creating the power source for propelling the machines. If I had taken the trouble to do a little probing I would have discovered some very interesting facts, as pointed out to me by Mr Jeffrey Cook of Derbyshire, England. Mr Cook contacted me by letter on 9 August 1974 and stated the following: "The ancient *vimanas* were flying machines which supposedly made use of an iron engine filled with mercury. I'm sure you may already be familiar with what an interesting partnership mercury and iron make together, especially when sound waves are passed through them, but if you're not, then perhaps you may find the enclosed data of some interest". He states that the acoustical data he used was taken from the *Mathematical Tables* by "Montague-Beart":

Velocity of sound through mercury = 4764 feet/second.
86400 seconds = 97200 grid seconds (per revolution of earth).
Therefore 1 second = 1.125 grid seconds.
Dividing 4764 by 1.125 we get 4234.66 feet/grid second.
However 6000 grid (or geodetic) feet = 6080 feet.
Therefore 1 grid foot = 1.013 feet.
Again, since a grid foot is slightly larger, velocity in grid feet/grid second must be proportionately less.
Dividing 4234 by 1.013 we get 4180.32 grid feet/grid second.
One minute of arc = 6000 grid or geodetic feet.
Therefore 4180.32 ÷ 6000 = .69672 minutes arc/grid second.
The velocity of sound through iron is converted in the same way, i.e.:

16400 feet/second = 14577.777 feet/grid second.
= 14390.698 grid feet/grid second.

So we see that at the particular temperature of the two metals when the speed of sound values were calculated, the harmonic velocities were very close to those of the speed of light and the reciprocal, when dealing with physical substances. As a check I

referred to my *Science Data Book* by R. M. Tennent and the values given there when converted were:

Mercury = .696461 minutes of arc/grid second: at 20°C

Iron = 14389.64947 grid feet/grid second: at 25°C

If the temperature were closely controlled then it should be possible to create conditions so that the speed of sound through these two substances is harmonically tuned closely to the speed of light and its reciprocal. An electrical reaction would then most certainly occur.

The harmonic affinity of these metals was also further ascertained by checking the mass numbers. If the particular isotopes of mercury and iron with mass numbers of 198 and 54 were used, the difference in mass number would be 144. I believe that we could reproduce an engine, or power pack, of this type today, now that the fundamental theory is available. I can visualise a sonic generator consisting of thin plates of iron immersed in a bath of mercury. Through the thin iron plates would be broadcast eight harmonically tuned sounds as described earlier in this chapter. The combined sounds would cause a resonance within the iron and mercury which would be tuned to the frequency of the protons within the nucleus of all the atoms in the atomic structure of both metals. The system would be strictly controlled as regards temperature. An imbalance of electrical potential should be created between the two substances and a flow of current obtained. The amount of current flow would probably depend upon the intensity of the input of sound. Once the reaction was initiated it should be possible to tap off a small amount of the power output to activate the sonic generator, thus creating a self-sustaining power source.

If this proved to be a workable hypothesis then a completely pollution-free power source could be made available within a comparatively short time. This would then solve the problem of the present-day atomic power stations, which leave highly lethal radioactive material on our hands to be disposed of.

A non-lethal, melodious power station would be an asset in any community.

A more mundane method of using sound to help combat the energy crisis would be the application of ultrasonics as dreamed

up by a British inventor, Mr Eric Cottell. An article describing his invention was printed in *Newsweek of* 17 June 1974.

In a normal combustion engine a combination of fuel and air is burnt, resulting in exhaust gases containing carbon monoxide, water vapour and heavy oxides of nitrogen, which cause pollution. Mr Cottell reasoned that if the air were replaced by water to supply the oxygen for combustion, a considerable amount of the noxious nitrogen oxides caused by the air would be eliminated.

He already held a patent taken out twenty-two years ago for an ultrasonic reactor for emulsifying heavy liquids. By converting the reactor, Cottell was able to break water into particles about one fifty-thousandths of an inch in diameter and to disperse them evenly in oil (or gasoline) to create an emulsion that was 70 per cent oil and 30 per cent water. When burnt, it was found that far fewer waste products resulted and the fuel gave off much more heat. The small water droplets expanded on heating, then exploded into steam, which shattered the oil into very fine particles creating a much more efficient mixture for burning.

Tests have shown that a car with an ultrasonic reactor attached to the carburettor can get almost double the normal miles to the gallon of gasoline with very little exhaust gas.

Here we have a very simple gadget based on a system of harmonic resonance within the atomic structure of liquids. There are probably many different applications of such a device that would save millions of dollars in energy resources.

Note: I found some interesting values for heat in the physics books.

1. One British Thermal Unit: 252 calories, 1060 joules (106).
2. Heat of vaporisation of water is 539 calorie/gramme at one atmosphere. Work done on the environment by the system is equal to: 169.5 joules.

Is this just a coincidence?

ELEVEN

THE HARMONICS OF THE LASER

IN 1960 THE ELECTRONIC ENGINEERS coined a new word to be entered into the dictionaries of the world: LASER, which is an acronym made up from the first letters of several words describing an electrical process: Light Amplification by Stimulated Emission of Radiation.

This, however, is not an exact definition as a laser does not actually amplify light in the strict sense. It generates a particular kind of light and should in fact be termed an oscillator. It has also been called a quantum device since its action can be explained by the science of quantum mechanics.

The important difference between ordinary light and light radiating from a laser is that the laser light is coherent. Each ray of light is of the same wavelength, or colour, and is completely in phase with its neighbours, whereas the rays of ordinary light are scattered in all directions. The energy of the light rays generated by the device is emitted in a pencil-thin beam which does not spread out, thus allowing it to be concentrated on a sharply defined point. The radiation can be made so intense that it will burn a hole in a steel plate one eighth of an inch thick placed several feet away.

Radiant energy is propagated in the form of electromagnetic waves. A moving wave forms a series of crests and troughs, and the wavelength is defined as the distance between two adjacent crests or troughs. We say a wave has "moved through one cycle" when it has gone from crest to trough and back to crest again. The frequency of a wave is the number of individual cycles which are executed in one second.

All electromagnetic waves, including those of light, travel at the speed of approximately 186,300 miles per second. As the metric system is used in all scientific measurement, this is usually given a value of 300,000,000 metres a second. Classification of all forms of radiant energy is carried out by a comparison of

wavelengths, and a table can be set up forming a spectrum of wavelengths. The electromagnetic spectrum is so arranged that the longer wavelengths are at the bottom of the table.

Only a very small fraction of the electromagnetic spectrum is visible to us as light, and the lower region of this section has a wavelength of 0.000,00075 metre. We see radiation at this wavelength as red light. To simplify matters when calculating wavelength, the scientists invented a measure called the ångstrom unit, which is equal to 1/10,000,000,000 of a metre. This is abbreviated to the letter Å. The visible spectrum extends from 7,500 Å (deep red) to 4,000 Å (blue). The energy of radiation is proportional to its frequency, and the energy of each wave-packet, or cycle, is called a quantum. This is measured by multiplying the frequency of the radiation by Planck's Constant (6.625×10^{-27} erg seconds). The number of quanta that pass a designated point in a given time depends directly on the intensity of the radiation source.

All light is produced when atoms are subjected to energy changes. When an electrical current is caused to flow through the filament of a light bulb, the atomic structure of the tungsten or other material that it consists of is agitated, and some of the energy is radiated as visible light. The energy levels of the atomic structure of a gas can be caused to fluctuate in the same way.

When an atom absorbs, or imparts, energy it does so according to very strict rules, and each atom has an energy level which represents its stable state. Hydrogen in this stable, or ground state, cannot absorb energy in an amount less than 10 electron volts. If a hydrogen atom is struck by an electron which has an energy of less than 10 EV, the particle will disperse without imparting any of its energy to the hydrogen. If the electron had an energy of 10 EV or more, the hydrogen atom could absorb the 10 EV and the electron would continue on its way with a reduced energy and speed. The hydrogen atom would then be at its first excited state, at which level it would stay for a short time, then fall back to the ground state, shedding its 10 EV of energy as a quantum of electromagnetic radiation.

It appears that the energy level in a hydrogen atom can be raised to a total of seven higher states than the stable ground state. As the energy is dissipated in a jump from a higher level to a lower one, the loss is manifested as a packet of radiation. As

the total number of electrons that can be accommodated in each atomic "shell" is eight, it is logical to assume that the total number of energy levels to which an atom can be raised would depend on the number of electrons which exist in the outer shell of the atom when it is in its stable or ground state. If, for instance, a particular type of atom has four electrons in its outer shell in the ground state, then it can be raised to a total of four energy levels higher, at which time the octave of eight electron positions has been used up. As the atom jumps back through the four excited states to its stable level, different types of radiation would be emitted.

The textbooks state that when the electron passes through various energy levels it jumps to higher or lower orbits in its travel round the nucleus of an atom. I have a feeling that this is not quite the whole story. The outer shell of an atom is capable of accommodating eight electrons, and in the case of hydrogen only one of these positions is filled. In the chapter on the harmonic nature of the atomic table of elements I have demonstrated that each electron position on the orbital periphery of an atom is spaced at a harmonic distance of 144 (the light harmonic), the total of the eight electron positions forming an orbital harmonic circumference of 1152 units. I would theorise that if a hydrogen atom were in the stable state, then the single electron would have a very definite fixed location in relation to the eight positions it could fill. As energy is imparted to it in strict quantum jumps, then the electron would move round the periphery of orbit in each of the three-dimensional planes to occupy the next position, which would be a three-dimensional harmonic leap of 144 units. As the energy of the electron is increased it would move further round the periphery of orbit in unit jumps of 144 until a maximum of eight positions was reached. This could be likened to the twisting of a bendix spring in the starter motor of a car. The more the circumferential twist, the higher the tension. Another vague analogy would be the moving of a cartridge from one chamber to the next in the cylinder of an eight-shot revolver. One chamber could be thought of as the fixed stable position.

The process called spontaneous emission occurs when an atom in the excited state, say E^2, decays of its own accord to the lower energy level E, and emits a photon of energy $E^2 — E'$.

Albert Einstein proved mathematically that if the atom in its higher energy state is hit by another photon of the same energy, the decay can be stimulated to occur before its natural time. After the collision, two photons of the same energy would leave the scene of the accident, as it were, and would travel in the same direction, exactly in step with each other.

The process of stimulated emission is the basis for a method of amplifying light waves.

The American scientists James P. Gordon, H. T. Zeiger and Charles H. Townes put this general idea to practical use in 1954. They applied the theory to the amplification of micro-waves by the fluctuation of the energy levels of molecules. This type of device was called the "maser", which stood for Micro-wave Amplification by Stimulated Emission of Radiation. One use of a maser is that of an input amplifier of radio telescopes and of space-tracking receivers that magnify weak signals coming in from space.

The theory was first used to generate coherent light, in 1960, by the scientist T. H. Maiman, an employee of the Hughes Aircraft Company in California. The main parts of the device were a xenon flashtube and a cylindrical ruby crystal. The type of ruby used is a synthetic gem-stone made by fusing aluminium and chromium oxides together. The amount of chromium is only five hundredths of one per cent, but this seems to be the catalyst upon which the action of light amplification depends.

The ruby crystal is flattened at both ends and each end polished to a mirror finish. One end is heavily coated with silver. The other end is not so heavily coated, which causes it to reflect only approximately 92 per cent of the light waves which impinge upon it. The crystal is then positioned within a helical-shaped flashtube. The irradiation of the crystal by this method is called optical pumping.

Mr John Carroll, in his book *The Story of the Laser*, states:

> When energy is imparted to an atom . . . it is said to absorb energy and to have been raised to a higher or more excited energy state, or level. If the electron then returns to its original orbit [I would say position in its orbit] the atom gives up energy. It may now emit light of a certain precise wavelength. The atom is said to relax to a lower or less excited energy

state, or level. When light wavelets, or photons, at 5600 Å from the flashtube irradiate the ruby rod, they raise the energy of some of the chromium ions dissolved in the ruby from ground state (1) to various levels lying within the absorption band. Then the chromium ions immediately begin to drop from these higher energy levels. Some drop right back to the ground state, level (1), as they do in natural fluorescence. But others drop to an intermediate or so called "metastable" state, (2). If left alone, the latter chromium ions would continue their drop to level (1), and the result would just be natural fluorescence. But these ions dally for a short but measurable time in level (2), and this is what makes laser action possible.

While the chromium ions are trying to get back to level (1) the flashtube keeps on irradiating more chromium ions. In fact, the two-step movement from state (1) to state (3) and down to state (2) is much faster than the movement from state (2) to state (1). Thus there develops a chromium traffic jam at energy level (2).

. . . As the pile-up of chromium ions in level (2) continues, another situation develops: soon there are more chromium ions in level (2) than in level (1). This is called population inversion and is essential for laser action.

When you have an inversion of the chromium ion population, the laser resembles a spring that has been wound up and cocked. It needs a key to release it. This is what is meant by "stimulated emission" of radiation. The stimulus is the key that releases the cocked spring. The key is a photon of light of exactly the wavelength to be emitted (6943 Å). Emission begins when a random chromium ion spontaneously falls from level (2) to level (1) emitting a photon at 6943 Å. The photon strikes neighbouring metastable (level 2) ions, causing them to emit additional photons and these in turn trigger other metastable ions.

As this action builds up, millions of photons are released within the ruby crystal. Some are lost by escaping through the sides of the crystal but a great number are reflected back and forth between the mirrored ends. This causes a stream of photons to be built up until the energy is so great that a beam of single-frequency, coherent light passes through the partially silvered

end in an intense pulse. Laser action now commences and a continuous pulsing action occurs, setting up a very thin beam of light consisting of waves all in step with each other.

The story of the laser is a very exciting one, and many textbooks can now be obtained explaining the general technicalities of its operation. What is of immediate importance to us in the creation of the beam of photons is the quantum of energy necessary to initiate the action: namely, 6943 ångstroms. A very familiar value—the harmonic of the speed of light reciprocal. These standard values are repeated in this book *ad nauseam*, but that is what the exercise is all about—the unified nature of light and matter. When the energy level of a laser device is built up until it reaches the harmonic reciprocal of the speed of light, the creation of a photon must occur if symmetry is to be maintained. The 6943 Å energy packet would create an antiphoton, so we must have a normal photon on the physical side to balance it up.

More and more photons are created in an ever-increasing avalanche, as more energy is pumped into the laser, and eventually the stage must be reached when they saturate the device to overflowing, and burst forth to form an energy beam.

Another important factor in the construction of a laser is the type of material used to make the crystal, or the makeup of the gas in certain types of gas laser. To create a harmonic trigger to initiate the formation of photons it would be logical to assume that special materials would have to be found for the construction that would have a physical harmonic affinity with light, or any other type of radiation it was intended to produce.

In the case of the ruby laser, this was found to be so. A combination of aluminium isotopes could be used to form an aluminium oxide with an atomic weight of 26.94 (harmonic 2694; see unified equation). The same would apply to chromium, the atomic weight being 51.84. ($51.84 = 7.2^2$, or harmonic 72, or C/2). The combination of chromium and aluminium would give a combined atomic weight of 78.78. The reciprocal of this number is 12693577 (12694).

Gallium arsenide is another material that can be used successfully in solid lasers. In this case the most efficient mixture of isotopes to use would be that which would give an atomic weight of 69.44.

In all cases, laser action is seen to be directly related to quantum jumps that give very accurate values in terms of light, or associated harmonics. For instance, in the case of the ruby laser it was found possible to double the output to 3472 ångstroms. This would create an energy level which is a reciprocal of the double light harmonic of 288.

John Carroll states in his book: "Frequency-coherent light also lends itself to frequency multiplication, the technique whereby a closely controlled but relatively low radio frequency can be raised to a higher output frequency. The output of a ruby laser at 6943 Å, has been doubled to 3472 Å. The input was deep red and the output blue-violet, almost ultraviolet. The reason the wavelengths of laser light are given so precisely is that the emission of laser light depends on the shifting of electrons between atomic orbits and each wavelength is characteristic of one particular orbital shift, or so-called quantum jump".

As stated before, according to the evidence I have found the quantum jump is not strictly confined to a higher or lower orbit, but rather to a new position further round the periphery of the three-dimensional planes of orbit, 144 harmonic units from the stable point. As the shift in position cannot be observed, the movement apparently takes place during the antimatter part of the pulse or cycle. The possibility even occurs to me that the electron in the stable position may disappear instantaneously and that a new one is created to take its place at the higher energy level, further round the orbit.

The fact that laser action depends entirely on the harmonic affinity of energy and physical materials indicates to me some very exciting possibilities for the future. The next step in research is obviously to construct lasers in such a way that the coherent light beam can be selected to particular wavelengths which coincide with that of specific types of physical matter. If, as I presume, the atomic table of elements is a natural harmonic series, then it should be possible to tune a laser to resonate at the exact wavelength of any type of matter that we choose. If this is so then we would have at our disposal the perfect tool for cutting, or manipulating, any type of material. The atomic structure would not be physically torn apart during the cutting process as it is under present methods. The atoms along the line of the cut would be actually disintegrated with a very small

amount of effort, leaving a smooth clean surface. An added, and very important, advantage, would be that any other type of material or physical matter touched by the selective laser would remain unharmed, as the physical wave-form would be out of harmony with the beam.

It is more than a probability that the miles of spacious tunnels and caverns snaking through the depths of the mountain ranges in South America, as described in the books of Erich von Daniken, were carved out by the use of laser-type devices. Thousands upon thousands of tons of rock have been removed and the walls in many places are still smooth to the touch, regardless of their immense age. Only highly sophisticated machines, or electronic means, could have been employed to work extremely hard granite to such a high degree of accuracy and finish.

A pointer to this may be found in an article printed in the *Rosicrucian Digest* of March 1961. The story called "A Beam of Light" by Gaston Burridge discussed the possibility of creating an electronic generator to produce a disintegrating beam. He stated that Nicola Tesla had spoken of such an idea in 1933. Tesla envisaged the beam, or ray, as tiny in size, but highly destructive. Possibly no more than one hundred-thousandth of a centimetre in diameter. The range would be about 200 miles, due to the curvature of the earth, and the energy would be about 50,000,000 volts. He estimated the cost of the generator to be about 2,000,000 dollars—a great amount of money in the early 1930s. It would be of great interest to know if the information necessary to make the generator was among the records removed from Tesla's safe by the authorities when he died in 1943.

Was it Tesla who paved the way for the production of the laser? More than possible, I would say, because in the same article another startling occurrence was described. Evidently in Fort Monmouth, New Jersey, not too long ago, a mysterious happening took place:

> Fort Monmouth scientists were experimenting with new ideas in radar-beam transmission. Giant electrical apparatus flexing huge mechanical muscles hummed contentedly. Experimental test results however had been disappointing, and after a brief

> conference the three participating scientists gave their foreman word to end the experiment.
>
> Turning to his switchboard operator, the foreman swung his hands palms down at waist level, as a signal to cut off the power. The man at the switchboard repeated the signal then turned to his meters and switches. As he lifted his hand toward the handle of the big switch, all eyes followed the motion . . . Then before his hand could reach the switch a blinding flash of purple fire arced out from the radar transmitter. An angry demonic hiss followed the flash. The brilliance paused a fraction of a second, flattening itself slightly against a two-foot-thick concrete laboratory wall, then burst through it with a sharp sizzling noise . . . the lavender flame had pierced a forty-inch diameter hole, its edges vitrified, without one sliver of material which had once filled it remaining. The stone had evidently become gas almost instantly.

Obviously the above description was the portrayal of an experiment that went somewhat haywire. But the results, although accidental, could no doubt be repeated by intention, and under complete control. It is almost certain that the disintegrator ray is already in the hands of the top scientific and military groups in the world.

I have shown how the atomic weights of aluminium and gallium make these metals ideal for the manufacture of lasers due to their harmonic properties. Another use has been found for them in the construction of high-flux solar cells. The use of normal photovoltaic solar cells is prohibited by the high cost of production.

It has been found by experiment that a particular type of gallium arsenide, or gallium aluminium arsenide heterostructure junction semiconductor solar cells can be operated at light intensities of 2000 times that of full sunlight. The output is between 20 and 40 W per square centimetre. The maximum efficiency obtained by use of silicone cells is obtained by a concentration of only about 10 times that of normal sunlight.

Obviously gallium and aluminium have very special properties which can be exploited in various types of electrical apparatus. Other elements or combinations of elements will be discovered in the future, which can be utilised for various types of

sophisticated electrical gear, due to their particular harmonic wave-pattern. By this I am referring to the wave-pattern of the geometric structure of the atoms making up an element, or a combination of elements.

Science has only just begun to unlock the mysteries of physical substance. An exciting future awaits us in the discoveries yet to come.

TWELVE

THE SECRET OF LIFE (LAKHOVSKY) AND DELAND'S MAGNETIC CANOPY

IN *HARMONIC 695* I described a type of ground aerial system being used in many orchards in the United States. The apparatus has proved to be very successful in warding off frost damage to citrus fruit. A further effect has been the promoting of healthier trees and better general growth in the areas covered.

I gave dimensions for a similar aerial which would resonate at the frequencies of light and gravity. Since publication I have received more information on the American system and have been extremely interested in the actual dimensions used.

The aerial was designed by John Delrea Deland of Riverside, California, and has been in use since 1949. The units cover about one acre each and consist of a steel mast about 32 feet high, made of galvanised pipe in 12-foot lengths. The first is a two-inch pipe set into a three-foot-deep concrete base. Two other pipes of lesser diameter are screwed on to the bottom pipe to form a vertical mast 30-feet high. At the masthead, and also at the two pipe joints, a waterproof, three-quarter-inch plywood disc is fitted. At the outer edge of the discs are seven drilled holes, evenly spaced and parallel to the mast. The holes are about ¼ inch diameter, 51.42857° apart.

Ten hard copper wires are strung through each of the holes in the discs, parallel with the mast. At the top disc the wires are extended about eight inches parallel to the earth. This forms a wire cage around the mast. The wires pass through the outer edge of the concrete base then into trenches which are 18 inches deep and radiate from the mast centre at angles of 51.42857°. One of the wires in the trench must be orientated with magnetic north.

The wires are run from the centre of the mast to a distance of 144 feet. They are then attached to a "magnetic pack" the design of which, according to the information I have, is a secret. The end of each wire is then brought above ground and pointed

toward its corresponding end at the top of the mast. The trenches, which form the radius of a circle 288 feet in diameter, are then covered in.

The information sheet says that the device does not raise the air temperature of the grove. It is thought that a type of magnetic field of force is set up over the trees by the equipment, which creates within the trees themselves a condition which prevents freezing. Citrus fruit lying on the ground will freeze. Fruit still attached to the tree but touching the ground will also freeze in a short time. The fruit growing on the tree seem to be unaffected.

Protection has been given to trees with temperatures as low as 20° Fahrenheit. Besides preventing frost damage the trees appear to be healthier and to have a slightly higher production rate. No one seems to know how the apparatus works, and the writeup says that there are apparently forces around us of which we know little.

The first thing I realised when reading this was that the radius of the circle encompassing the ground aerials was 144 feet or the harmonic of the speed of light; the diameter of course being 288 or double the light harmonic. With a mast height of 30 feet, the angles that the wire ends make with the ground at the periphery of the circle were calculated at 11° 35′, or 695 minutes of arc. The pure harmonic reciprocal of the speed of light is 694444, so 695 is near enough in a practical sense. See Diagram 22 for layout of the system.

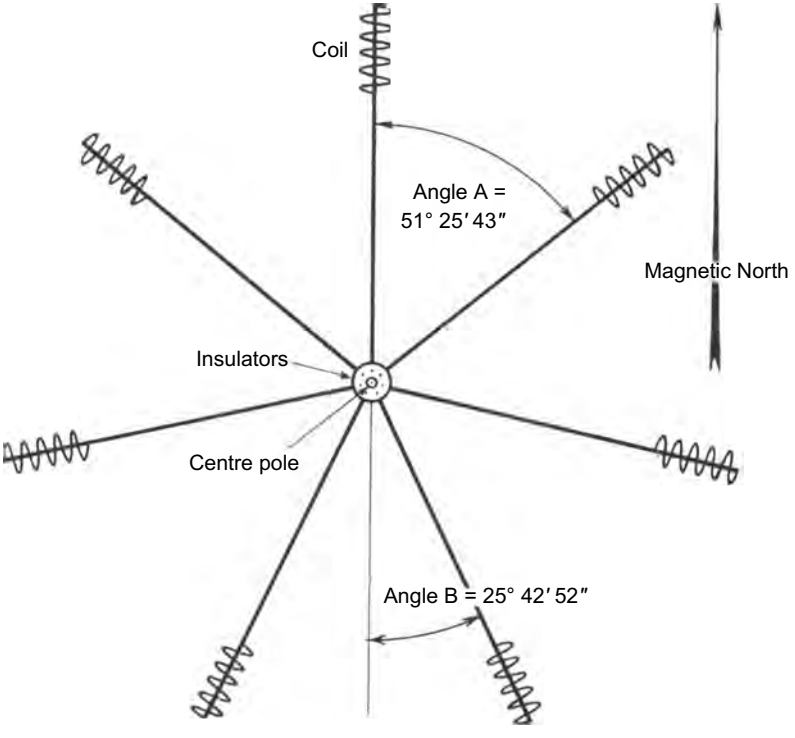
Did Mr Deland have access to secret knowledge when he constructed his aerials? Or has the method of construction been passed down through the ages without anyone really knowing how or why the system works?

I believe that as all physical substance is being manifested in alternate pulses of matter and antimatter, then such an aerial system would be subject to these pulses at the frequency of 144000 pulses a grid second. By induction, the tuned aerial would set up a secondary field which has a harmonic affinity with matter and life itself. This would increase the strength of the life forces and help to shield living things from any adverse influences.

One of my fellow-pilots, Mr D. R. Offwood, became interested in the information I had on the aerial layout and proceeded to construct a similar system in a nursery in the South Island of

DIAGRAM 22

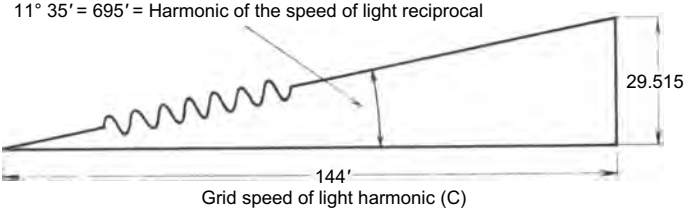
Showing dimensions of Ground Aerial.



Plan showing seven ground aerials

An aerial similar to the one described in *Harmonic 695* by Bruce Cathie. These measurements are in grid feet which are factored by 6082.5/6000 to convert them to statute feet.

Separation angle of the ground aerials: 51.42857°
This is equal to 3085.714286 minutes of arc.
The reciprocal of this value equals 0.000324074
very close to the earth harmonic of 324 demonstrated in other sections of the book.



Grid speed of light harmonic (C)

New Zealand, to test the effects and carry out a series of experiments.

It was agreed that a quarter-size mast would be constructed, as according to radio theory a quarter-wave aerial should pick up a fairly strong signal. The aerial was set up and an investigation into electroculture was carried out between September 1972 and June 1973. A full report was written up and presented to me for publication in 1974. The following is the main body of the report by Don Offwood, including tables of growth etc:

REPORT ON AN INVESTIGATION INTO
ELECTRO-CULTURE AT CHRISTCHURCH
BETWEEN SEPTEMBER 1972 AND JUNE 1973

This report is a record of two separate experiments I carried out during the spring and summer of 1972—73 in which I attempted to evaluate the reported effect the magnetic field has on plant growth.

This was done by growing plants inside an area of a wire aerial and comparing their rate of growth with that of other plants of the same species planted outside this area of influence. Such aerials are reported to be available commercially in California and are used to the exclusion of oilburning smoke-pots in orchards on frosty nights. It is suspected that the wires are of such arrangement that they are in harmony with the wavelength of light and the earth's magnetic field, and have the effect of concentrating or amplifying this energy source, which the plants are able to tap, it being the most natural of energy sources next to the sun.

The aerial was built to quarter-size of the dimensions shown in Diagram 22, because of the physical problems in building a full-size one, to the home handyman.

The vertical support was an old galvanised waterpipe, the insulators were made from commercial formica, the wire was number 10 galvanised, the seven wire coils having alnico bar magnets placed inside them, north pole uppermost. This arrangement was set up with one of the legs aligned along magnetic north.

This aerial was constructed on a nurseryman's land where the Waimakariri sandy loam soil had had no special treatment and was of a uniform nature. The nurseryman who

kindly allowed me to use his land also supplied the lettuce plants, which were 2–3 inches in size, and uniform. He suggested lettuces for the test, as they are a quick-growing plant suitable for an experiment of this kind.

These were planted on 3 September 1972; beside the central pole; at 5 feet and 11 feet; and beside the coil at 30 feet, and at 50 feet out from the pole. This latter group were assumed to be clear of the influence, if any, of the aerial arrangement.

All the plants received water on planting and again that evening, to help them get established, but after this time the only water they received came from rainfall.

Readings of the average diameter across each plant were made five and eight weeks after planting and were as follows. The dimensions are in inches:

TABLE 3

	11 October	*55 datum*	*29 October*	*7 datum*
50 feet out from pole	5.5, 5.6, 6.5	0.5	7, 7, 7.5, 8	0.5
30 feet out	6,6	0.5	8.5, 9.5	2.0
11 feet out	7.3, died	1.8	10.0	3.0
5 feet out	8.3, 8.5	3.0	10.5, 10.5	3.5
Beside the pole	8.3, 8.3, 8.5, 8.8	3.0	12.5, 13.5, (10.0, 10.0)	6.0

Using 5½ inches as a datum for comparison of the measurements on 11 October and 7 inches for those measurements taken on 29 October, the datum columns show the average plant size at each position, which displays the accelerated plant growth exhibited by plants closer to the centre of the aerial.

For example, the two by the pole finished up 6 inches greater in diameter than the examples which were clear of the area at the 50-feet station, and had well-developed hearts. The two plants which grew to 10 inches beside the pole were infected with aphids. As I had not expected the marked results shown they were unfortunately rather overcrowded, these two plants succumbing to the larger two.

The results obtained do show a marked improvement in the lettuce condition the closer they were to the centre of the arrangement. The two plants by the pole were 73 per cent larger than the plants outside the test area, although this

ehf t qd hr ne bnt qrd l hrkd`chmf nm rn edv sdrs dw`l okdr- L x bnmbkt rhnm hr sg`s sgd sdrs ok`mnr dwghahsdc `bbdkdq`sdc f qnv sg q`sd `mc sdql hm`k ok`ms rhyd v gdm ok`mndc v hsghm sgd `qq`mf d, l dms ne v hqdr cdr bqhadc+ c t d sn ` b`t rd mns drs`akhrgdc nq nauhmt r sn `mx bnmudmshm m`k`ooqn`bg-

Sgd qd`cdql `x ehmc hs hmsdqdrshmf sn bnmrhcdq sgd enkknv hmf 9

@mf kd ne nmd rdf l dms < 40-31746 cdf qddr-
G`le sghr `mf kd < 14-60317 cdf qddr-
< 0431-746 l hmt sdr-
Rpt `qd qnns ne sghr u`kt d < 28-16811
G`ql nmhb 2816811 hr bknrd sn g`ql nmhb 2817260-
G`ql nmhb 2817260 dpt `kr d`qsg ehdkc @l hmt r d`qsg ehdkc A-

@kk ne sgd f qnt mc `dqh`kr qdk`sdc sn sgd mnqsg+rnt sg+d`rs nq v drs onrhshm m dwghahs sghr e`bsnq+nq ` u`kt d qdk`sdc sn nmd g`le nq pt `qsdq ne hs-

@ et qsgdq rdqhdr ne dwodqhl dmsr v `r b`qphdc nt s ax L q Neev nnc t rhmf ` sxod ne v hqd knno `dqh`k v glbg b`m ad dqdbsdc `qnt mc ` rhmf kd ok`ms nq sqdd sn oqnl nsd f qnv sg- Hb`l d `bqnrr sghr cdulbd pt hsd ax bg`mbd v gdm aqnv rhmf sgqnt f g ` annj rsnqd hm @t bj , k`mc- Sgd annj v `r b`kkdc *Sgd Rdbqds ne Khad* ax F - K`j gnurj x+ `mc v `r ehqrs odhmsdc hm 0824+k`sdq qdoqhmsdc hm` qduhrdc dc hshnm ax bnt qsdrx ne L drrqr G dlmdl `mm 'L dc lb`k Annj r( Kscd sghqc dc hshnm 0852- Udqx edv bnohdr ne sgd annj v dqd `u`hk`akd knb`kkx rn Hedks kt bj x sn `bpt hqd nmd enq l x dudq, f qnv hmf kha q`qx-

Sn c`sd+sgd v nqj ne K`j gnurj x g`r addm bnl okdsdkx hf mnqdc ax nqsgnc nw r bhdmbd+l t bg Hadkhdud sn sgd cdsqhl dms ne l `mx sgnt r`mcr ne hkk odnokd hm sgd v nqkc snc`x- Ghr qdrd`qbg `mc dwodqhl dmsr v dqd l at hks nm sgd et mc`l dms`k a`rhr sg`s Ədudqx khuhmf adhmf dl hsr q`ch`shm mrƐ- Sghr g`r addm a`bj dc t o hmqdbdms sh l dr ax Ing mOedheedq+`m@l dqdb`mv nqj hmf hm sgd ehdkc ne q`ch n `rsqnmnl x- Ghr annj +b`kkdc *Sgd Bg`mf hmf Tmhudqrd*+ot akhrgdc hm 0845+rs`sdr hm o`qs9ƏD`bg gt l `m adhmf hr `m dl hssdq ne q`ch n v `udr+` khuhmf aqn`cb`rshmf rs`shm ne dwbddc hmf kx knv onv dq- Sgd rsnl `bg v `kk rdmcr nt s mns nmkx hmeq`qdc gd`s v `udr+ at s sgd dmshqd rodbsqt l ne kf gs+t ksq`uhmkds q`xr+W, q`xr+q`ch n v `udr `mc rn nm- Ne bnt qrd `kk sgdrd q`ch`shm mr `qd e`ms`rshb`kkx v d`j `mc sgd q`ch n v `udr `qd `l nmf sgd v d`j drs- At s sgd ehesx, enns

aerial of the naval research laboratory in Washington, the most accurately constructed aerial in existence, could pick up radio signals coming from your stomach more than four miles away".

The foreword to the book states that "Lakhovsky's original theories and amazing experimental results in human beings, animals and plants, as fully set forth in the revised edition, are destined to become a landmark in the history of radio biology, standing high above the ruins of orthodox misconceptions of the laws of nature".

What have we to learn from this remarkable man? He states that the living cell is an electromagnetic resonator capable of emitting and absorbing radiations of very high frequency. Life is dynamic equilibrium of all cells; the harmony of multiple radiations which react upon one another. Disease, on the other hand, is the oscillatory disequilibrium of cells originating from external causes.

Each living cell gives off radiations from its nucleus which has its own individual oscillating frequency. The geometric makeup of the cell causes it to act as an electric circuit which has self inductance and capacity. The natural oscillation of energy in the cell I believe to be due to the constant interaction of the matter and antimatter cycle discussed in other sections of this book. A pendulum-like pulsing occurs between the physical and non-physical substances. When stronger radiations are imposed upon the cell by outside influences, then the natural rhythm of the cell is affected and it begins to break down. If the radiation of the cell can be restored to its original rhythm then it will resume its healthy state.

Lakhovsky found that he could accomplish this restoration of natural rhythm by means of artificially induced oscillating fields. To do this he employed two different methods. The first, by the use of spiral loops of copper wire which would set up electro-magnetic fields harmonically tuned to the life forces. These loops of wire were placed around the plant or area to be treated, and the natural bionic rhythm would be intensified by the inductance of the wire loop. In one of his experiments he artificially inoculated a series of geranium plants with cancer cells and placed them in separate pots. He states: "A month later, when the tumours had developed, I took one of the plants at random, which I surrounded with a circular spiral consisting of copper

and measuring 30 cm in diameter; its extremities not joined together, being fixed into an ebonite support. I then let the experiment follow its natural course during several weeks. After a fortnight I examined the plants. I was astonished to find that all my geraniums, or the stalks bearing the tumours were dead and dried up, with the exception of the geranium surrounded by the copper spiral. This had since grown to twice the height of other untreated healthy plants". (The tumour was eventually shed and only a scar on the stem of the plant was visible).

When I read of these experiments by Lakhovsky I was sure that somehow, either by design or by chance, he had constructed his spiral coils to some geometric dimension which would set up a natural resonance with matter. Possibly any diameter coil would show some results, but one that was perfectly tuned would give him the remarkable results he had with tumorous growths.

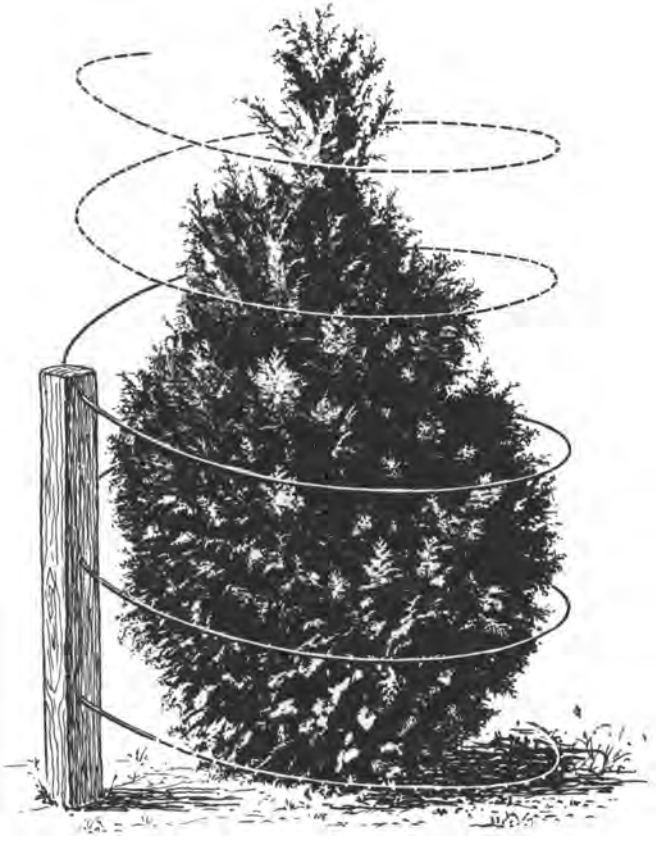
By calculation I discovered that a diameter of 30.02 cm was equal to a diameter of .972 geodetic feet, which gave a radius of .486 geodetic feet. The area of the encompassing circle would be .742 geodetic feet. In fact, the tuned spirals he used were within two hundredths of a centimetre (which is close enough practically, as this would be much less than the diameter of the wire used) to an exact dimension required to set up harmonic resonances tuned to time, and harmonics associated with the Great Pyramid. Any type of matter in such a field would be subject to sympathetic vibrations which would restore harmony to the natural rhythms.

The loop size decided on for the experiments carried out by Mr Offwood was 12 geodetic inches, which we considered at the time to be a dimension which should give a reasonable result. Although we now know that ultimate efficiency would not be obtained with a loop of this dimension, the diameter of the wire used was such that a partial success would have been expected. As Mr Offwood himself suggests, a metal loop of any dimension would possibly have some effect on growth by concentrating the magnetic field in a small area, but the perfectly tuned aerial would give the maximum results. The following is his report:

> The purpose of this part of the experiment was to test a suggestion, that if an open loop of wire of one grid foot (approximately twelve and one eighth inches) diameter, was placed around a tree or plant, then the plant would grow

DIAGRAM 23

Wire Loop Aerial



faster than its counterparts. The suggestion was that these loops would have a similar effect to the main aerial's, that is, concentrate the magnetic energy within the area of its influence. The spiral effect created would extend from both ends of the wire loop to encompass the plant vertically.

To test this idea I once again asked my nurseryman friend's indulgence and advice, and set up a series of wire loops on four varieties of plants, their unpronounceable botanical names being *Chamaecyparis lawsoniana* (*ellwoodii*), *Chamaecyparis lawsoniana* (*allumii*), *Phebalium squameum*, *Choisya ternata*. The plants were all growing in rows. As the table shows, I varied the thread of the loops, the height of the loop above the soil, and the pitch of the thread, to see what pattern emerged, if any.

The loops were placed in position on 12 September, and all the plant heights recorded. Subsequent height measurements were taken on 5 January, 15 March, and finally on 11 May 1973, these measurements being subtracted from the original height to obtain the growth of the plant on each of these dates. I then averaged the height increase of all those plants with loops, those plants without loops, and compared them, showing the result as a percentage.

On 5 January the average height gain of the plants with a loop was 4.675 inches, while the average gain of those plants that did not have a loop was 4.640 inches. The difference between these is 0.035 inches, which is a 0.759 per cent gain in favour of those plants with loops.

On 15 March the figures had changed to 10.300 inches for those with a loop, and 9.500 inches for those without, which gave an 8.42 per cent advantage to those plants with loops.

The 11 May readings showed that this advantage had increased slightly to 9.87 percent, as is displayed in table 4.

The reader will note that the three results were all positive, that is, the plants with loops grew taller than those without loops during the length of time the experiment was conducted, by the percentages shown. Another interesting point is that the growth tendency seemed to accelerate, as shown by the increasing percentage.

I am sure the reader will allow me to use three decimal

TABLE 4

	5/1/73	15/3/73	11/5/73
Average height increase by plants with a loop.	4.675	10.300	11.400
Average height increase by plants without a loop	4.640	9.500	10.375
Difference shown as a percentage	+0.750	+8.420	+9.870

points, as to reduce my results down to a more realistic single decimal point has a very marked effect on the end result.

The results obtained from the other three test species follow with their associated tables.

As in Row A, all the test plants displayed positive results, that is, plants with a loop grew taller during the test period.

The tendency for this phenomenon to accelerate was evident in three of the rows, the exception being row B, which displayed a decrease from 9.190 to 9.010.

The small number of plants involved must also be considered as affecting the accuracy of these results and percentages, as misreading the ruler by a small amount has a magnified effect on the end percentage.

It will also be noted that I omitted to have some loops of a diameter other than a grid foot present, to test the possibility that mass of metal of any dimension would have a beneficial effect. Also the loops were made of galvanised wire, where I suspect copper might have been better.

I examined my results to compare left-hand to right-hand loops for any obvious advantage.

In Table 9, the plant growth for left-hand and right-hand loops for each row on the appropriate dates were averaged.

With two exceptions, if one set of plants started out growing well, they maintained their advantage. In row B the advantage changed from right-hand to left-hand, while in row C the change was left-hand to right-hand.

Overall, left-hand threads on the wire loops appeared to favour over right-hand by 10–2, but I am unable to offer any

(*continued on page 170*)

TABLE 5

ROW A Chamaecyparis lawsoniana ellwoodii

		Date 12/9/72		Date 5/1/73		Date 15/3/73		Date 11/5/73	
Thread	Base Height	Pitch	Height	Height	Growth	Height	Growth	Height	Growth
·	·	·	12½	16¾	4¼	21	8½	22	9½
·	·	·	15	20	5	26	11	27	12
·	·	·	14½	19¼	5	24	9½	25	10½
L.H.	5½	3¾	15½	20	4½	26	10½	27	11½
L.H.	5	3	14	19¼	5¼	25	11	26	12
·	·	·	15½	21½	6	27½	12	28½	13
L.H.	3¾	3¾	11	15½	4½	21	10	21½	10½
·	·	·	14½	20	5½	24	9½	25	10½
R.H.	7	4	14	18½	4½	23½	9½	24	10
·	·	·	12	16	4	21½	9½	22½	10½
R.H.	1	2	16½	22	5½	29	12½	30½	14
·	·	·	12	17½	5½	23½	11½	24	12
·	·	·	17	23	6	28¾	11½	30	13
·	·	·	15½	20	4½	23½	8	24	8½
·	·	·	16½	20¾	4¼	24	7½	24	7½
R.H.	4	3	14	17½	3½	22½	8½	23	9
·	·	·	14	17¾	3¾	21½	7½	23	9
R.H.	5	2½	15	19	4	24	9	25	10
·	·	·	13½	17½	4	22	8½	23	9½
R.H.	3	2½	15½	20	4½	25	9½	26½	11
·	·	·	14	18½	4½	23½	9½	24	10
·	·	·	16½	23½	4½	26	9½	27	10½
L.H.	3½	3¼	13	17½	4½	22½	9½	24	11
L.H.	5	3	17	23	6	30	13	32	15
·	·	·	15¾	19¾	4	25	9¼	25¾	10
·	·	·	15¾	19½	3¾	25¾	9	25¾	10

TABLE 6

ROW B Chamaecyparis lawsoniana allumii

		Date 12/9/72		Date 5/1/73		Date 15/3/73		Date 11/5/73	
Thread	Base Height	Pitch	Height	Height	Growth	Height	Growth	Height	Growth
·	·	·	10¼	19	8¾	24	13¾	25	14¾
·	·	·	16	26	10	31¼	15¼	32	16
L.H.	0	3¾	13	23¼	10¼	30	17	31	18
·	·	·	13½	23½	10	30	16½	31	17½
R.H.	3	4	14	23½	9½	30½	16½	32	18
·	·	·	12½	21½	9	27½	15	27½	15
R.H.	5	8	13	23	10	30	17	29	16
R.H.	4	6¾	14½	23½	9¼	29½	15	31	16¾
L.H.	4	3	13½	22½	9	30	16½	31	17½
·	·	·	5	12¾	7¾	21½	16½	22	17
·	·	·	8½	17¼	8¾	24	15½	25	16½
·	·	·	10½	18½	8	23	12½	23	12½
·	·	·	13	24	11	31½	18½	32	19
L.H.	1¾	3	12¼	23	10¾	29¼	17	29	16¾
R.H.	9	3½	16	27	11	33	17	33	17
·	·	·	12½	23½	11	29¼	16¾	30	17½
R.H.	5½	3	14	25	11	29¼	15½	30½	16½
R.H.	4	3½	14½	24½	10	31	16½	32	17½
R.H.	6	3½	16	25¾	9¾	32	16	33	17
·	·	·	16	24¾	8¾	29	13	30	14
·	·	·	16	25½	9½	31	15	32	16
·	·	·	11½	19½	8	23½	12	24	12½

	5/1/73	15/3/73	11/5/73
Average height increase by plants with a loop.	10.050	16.400	17.100
Average height increase by plants without a loop.	9.208	15.020	15.678
Difference shown as a percentage.	+9.150	+9.190	+9.010

Three positive results again.

TABLE 7

ROW C Phebalium squameum

		Date 12/9/72		Date 5/1/73		Date 15/3/73		Date 11/5/73	
Thread	Base Height	Pitch	Height	Height	Growth	Height	Growth	Height	Growth
·	·	·	10	16	6	28	18	32	22
·	·	·	16	28	12	49	33	56	40
·	·	·	11	24	13	37	26	46	35
L.H.	3½	3½	16	26½	10½	47	31	50	34
R.H.	–1	2	14½	24	9½	41½	27	50	35½
·	·	·	13	26	13	49	36	58	45
R.H.	–1	3½	13	24	11	45½	32½	55	42
·	·	·	12	23¾	11¾	37	25	46	34
·	·	·	12	25¾	13¾	45½	33½	53	41
L.H.	4	4	13	26	13	48	35	55	42
·	·	·	15	26½	11½	46	31	55	40
L.H.	5½	3½	13½	28¼	14¾	47½	34	56	42½
·	·	·	15	24½	9½	43	28	48	33
R.H.	1	4	12½	27¼	14¾	45½	33	53	40½
R.H.	2	2	8½	24	15½	45	36½	56	47½
·	·	·	13	30¼	17½	48½	35½	59	46
·	·	·	13½	26	12½	46	32½	Removed	
·	·	·	15	31½	16½	51	36	in error	
·	·	·	14	23½	9½	54½	40½	63	49

	5/1/73	15/3/73	11/5/73
Average height increase by plants with a loop.	12.710	32.710	40.570
Average height increase by plants without a loop.	12.180	31.250	38.500
Difference shown as a percentage.	+4.350	+4.670	+ 5.380

TABLE 8

ROW D Choisya ternata

		Date 12/9/72		Date 5/1/73		Date 15/3/73		Date 11/5/73	
Thread	Base Height	Pitch	Height	Height	Growth	Height	Growth	Height	Growth
·	·	·	8	15	7	20	12	21	13
·	·	·	9	17¼	8¼	22	13	23	14
R.H.	6	4	8	14¼	6¼	20	12	20	12
·	·	·	8½	14¾	6¼	18	9½	19	10½
R.H.	2	3	8	15	7	19½	11½	19	11
L.H.	3½	3½	8½	15½	7	20½	12	23	14½
L.H.	3½	3½	8½	15½	7	22½	14	22	13½
·	·	·	8½	16	7½	20½	12	21	12½
R.H.	–1	2½	8	16½	8½	21½	13½	24	16
·	·	·	8	15½	7½	22	14	22	14
·	·	·	8	15	7	17½	9½	19	11
·	·	·	8	16¼	8¼	22	14	25	17
·	·	·	8	14½	6½	22½	14½	24	16
L.H.	–1	3	8½	17½	9	22	13½	29	20½
·	·	·	7½	15	7½	20	12½	24	16½
L.H.	–1	3	9½	18½	9	23¾	14¼	24	14½
·	·	·	7½	Removed to allow extension of					
·	·	·	9	the sprinkler system.					
·	·	·	9						

·	·	·	5/1/73	15/3/73	11/5/73
Average height increase by plants with a loop.			7.680	12.970	14.570
Average height increase by plants without a loop.			7.310	12.330	13.830
Difference shown as a percentage.			+5.060	+5.110	+5.350

TABLE 9

	Right-hand	*Left-hand*	
ROW A			
5/1/73	4.40%	4.95%	Favours left-hand
15/3/73	9.80%	10.80%	3-0
11/5/73	8.80%	12.00%	
ROW B			
5/1/73	10.07%	10.00%	Favours left-hand
15/3/73	16.21%	16.83%	2–1
11/5/73	16.96%	17.42%	
ROW C			
5/1/73	12.69%	12.75%	Favours left-hand
15/3/73	32.25%	33.33%	2–1
11/5/73	41.38%	37.17%	
ROW D			
5/1/73	7.25%	8.00%	Favours left-hand
15/3/73	12.33%	13.44%	3-0
11/5/73	13.00%	15.75%	

explanation, or draw any constructive conclusion from this, because of the small number of test plants involved.

I could detect no advantage between those plants having one end of the loop underground, as against those being clear of the ground; or between greater or lesser pitch; again this was due to the small number of test plants involved, and I was therefore unable to determine the optimum pitch.

In both experiments I showed to my own satisfaction that when plants are planted within an arrangement of wires as described they will exhibit a rate of growth superior to those plants *not* within the area of influence. I would suggest that under the above conditions, the energy of the magnetic field tends to amplify in such a way that any plant within the area is made healthier by this boost in its life-force, and will grow at an accelerated rate.

Work done by Justin Christofleau before 1914 and up to 1927 seems to show that this boost is of such a nature that it builds up over a period of time and may not take full effect for a year or more. He attributed his remarkable results to his equipment generating electricity, which accelerated his plant growth, while I suspect that the magnetic field will in time be found to be closer to the cause of this phenomenon.

Lettuces are relatively fast-growing plants, and I was therefore able to obtain results within a short period, but the aerial's effect on an orchard or a pine forest would be worth investigating.

Although of differing dimensions to the aerial described in *Harmonic 695*, this aerial did exhibit some of the same dimensions. I suspect that if an aerial or assembly of wires was arranged, involving several fundamental harmonics, then positive results would be available.

I have not attempted to write this report in a completely scientific manner as I am not a scientist. It is purely a record of my observations and comments on the results, so far as my limited knowledge of the subject allows.

February 1975 Donald R. Offwood

The results of Mr Offwood's experiments show without doubt that a wire loop aerial does, in a most positive way, influence the growth rate and health of plants. The next step to take in further experiments is to make use of perfectly tuned aerials for maximum results and to try a series of loops constructed from wires of different metals. I believe that certain metals which have mass values close to the harmonic values of light, mass and gravity, could improve the radiation field produced within the coil. For instance aluminium, which consists of a combination of isotopes with mass numbers of 26 and 27, could be produced. If the compound consisted of measured proportions the average mass value could be made to match that of the harmonic energy equivalent derived from the unified equation: 26.944. The radiations from this type of wire should theoretically be more intense. It is interesting to note that wires made from aluminium are excellent electrical conductors and that transmission lines are now being made from this metal.

The fact that loops with a left-hand thread were the most efficient could possibly be due to the experiments being conducted in the southern hemisphere. The opposite would apply in the northern hemisphere. This would be similar to the vortexual action of weather systems, which is also electrical in nature.

Lakhovsky carried out extensive research into cell structure, and in 1923 he constructed a machine called a radio-cellulo-oscillator which he used in his experiments with plants. As his

work progressed he came to the conclusion that the use of ultra-short waves alone was not the complete answer as the thermal effects were sometimes dangerous.

He conceived an idea for a new type of machine that would give "an oscillatory shock to all the cells in the body of a human being simultaneously". By the use of damped electrostatic waves thermal effects were at a minimum and cell injury would not occur.

In 1931 Lakhovsky perfected what he called his multiple wave oscillator. This apparatus was capable of generating an electrostatic field covering all wavelengths from 10 cm to 400 metres. Within such a field all cells could find their own frequency of vibration within a range of 750,000 to 3 milliards per second. Added to this, each circuit gave forth a series of harmonics extending far into the infrared and visible light regions.

This machine was eventually used in many hospitals in European countries for the treatment of numerous diseases. This included the treatment of cancer. No harmful effects have ever been reported, but many beneficial results were obtained.

A completely new branch of science was opened up, by this man, into the electrochemical structure of living matter. His research was obviously important to mankind. Is his work to be lost to us because he was ahead of his time?

Because of my own extreme interest in the structure of matter, I intend to build a multiple wave oscillator for my own private research. Who knows what other secrets may be prised from the limitless expanse of natural law?

Mr George W. Van Tassel, director of the Ministry of Universal Wisdom, Inc., Yucca Valley, California, is not content with doing things on such a small scale. For the last twenty-two years he has been engaged on a project which will make practical use of the electromagnetic wave theory formulated by Lakhovsky and other researchers. He is building a massive machine 55 feet in diameter and four storeys high, on the desert plain, designed to produce a pulsing electromagnetic field in order to rejuvenate and heal thousands of people a day. The initial research he has carried out indicates that the aging process is arrested so that anyone passing through the field should have their life prolonged. The machine is scheduled to be completed within a year or so, and we wait with interest to see the results of the project.

THIRTEEN

SPACE COMMUNICATION

THE SCIENTISTS are now beginning to agree publicly that we are not alone in the universe. Millions of worlds similar to ours must exist and the odds are that on many of them life has developed in much the same way as it has on earth. Some civilisations will be just beginning, others will be far in advance of our achievements here, and possibly many of them have reached the stage of travelling freely across the vast reaches of space.

Our own progress has been fairly rapid in the last century, and it won't be long before we will be ready to try our first venture into deep space. If we do have neighbours, our first step will be to communicate by means of transmitted signals before we take the more difficult step of building vehicles to take us there. In fact, if we could communicate in some way, we might possibly gain vital information from a more advanced race that would enable us to carry out a probe into deep space much sooner.

The problem is, by what method, and with what type of transmission can this be accomplished most efficiently? Normal radio transmission is not the answer, as vast amounts of power and extremely expensive equipment are required to broadcast a signal for any distance. Even at the speed of light a time factor is involved if we hope to contact many of the nearest star systems. Communication is not a very practical prospect if we have to wait many years for a reply.

The best and most efficient method, as I see it, is to devise a system whereby the communication frequencies are tuned to the structure of matter and the harmonic wave-forms that permeate all space. With the correct aerial system, and frequency ratios to match, it may be possible to find a short cut to reach the far-distant worlds which interest us.

Our planet is a resonating ball of wave-forms tuned to the

unified fields of space, so what better antenna could we use to broadcast intelligent signals through the cosmos than the earth itself? If a method could be found to superimpose coded waveforms within the natural grid of the earth, then they would permeate through space within the electromagnetic fields which join all the planetary bodies of the universe.

To do this, we would have to pick a geometric position on the earth's surface which would be harmonically associated with the structure of the atom. Then we would have to design an aerial system that would enable us to resonate the whole world. It would then become a spherical broadcasting antenna of immense potential, causing any signal imposed upon it to be spread throughout the galaxy.

It is possible that unbeknown to the United States Navy, they have solved the problem. With our present technology, and a few million dollars, the job can be done.

> In the 16 August 1973 edition of the *New Scientist*, I found an article headed "New Home For America's Doomsday Radio".
>
> Project Sanguine—the transmitters proposed for sending the retaliation signal to America's missile submarines following a nuclear attack—has quietly slipped back into gear, having been held up for four years by environmental protests. Two new sites have been selected for the aerials that spread over literally thousands of square miles and beam their submarine messages through the earth's crust.
>
> Project Sanguine, as it is known, will if and when completed enable the President of the United States to activate his second-strike missile submarine force lying hidden in deep canyons on the ocean bottom. It will provide the only remaining communications link between a continental America destroyed by a nuclear first strike and the deeply submerged submarine fleet which will then hurl retaliation against its aggressor.
>
> Sanguine will use extraordinarily low frequencies—somewhere between 30 and 100 hertz—which have never before been used for communications purposes. Their great advantage is that they will propagate through the earth's crust, penetrating the ocean bed from below—providing radio communications with deeply submerged submarines for the first time.

Sanguine's buried aerials will have to cover an area of anything up to 100 miles square, and will have to carry currents so strong that in early experiments they rang telephone bells, interfered with TV reception, and electrified fences on the surface above. The navy has awarded contracts worth three million dollars for design proposals for a system and expects to place full-scale development contracts next year.

Sanguine's use of frequencies previously employed only on national electricity grids is only an extreme example of a long-term trend in radio communications with submarines. Conventional mf, hf and vhf waves are rapidly absorbed by seawater and cannot be used. But even before the first world war it was realised that below about 40 kiloHertz attenuation rapidly falls off and communication becomes impossible. As the frequency is reduced from 40 to 10 kiloHertz, attenuation falls from 2.2 to 1.1 decibels per foot. All naval powers have long had stations operating in the lower part of this frequency band.

Unfortunately any radio aerial, if it is to be an efficient radiator, must have a length equal to at least one-quarter of the wavelength of the radio wave to be transmitted. At these frequencies the wavelengths are so enormous (say 20 miles) that this is physically not possible. Very low frequency (vlf) stations are all of great size and use very high power to compensate for the low efficiency of their aerials.

By 1969 several Project Sanguine research teams were in existence: RCA had a 4.3 million dollar contract to run a test facility; the US Navy had 20 million dollars put on one side for research in the following year; and there was talk of a final 1500 million dollar system.

The idea was to bury the aerial cables below the surface in a 22,000 square mile grid measuring 150 miles by 150 miles. The rectangles of the grid pattern would be eight miles by eight miles, and at each crossover point there would be a buried amplifier feeding current into the grid. Maximum current flow would be 300 amps and this would create a magnetic field of one gauss and an electro-magnetic field of 0.35 volt per metre.

The navy has selected two possible sites for the aerial grid. One is atop the so called Liano Uplift, a nonconducting rock

formation 45 miles north-west of Austin, Texas. The other is in the Upper Michigan Peninsula where the bedrock is part of the Laurentian Shield. Total power will be of the order of 10 megawatts.

The information given indicates that the best area to build the grid antenna would depend on the type of rock strata below ground level. The right type of strata would act as a wave guide, it is suggested.

According to my research, the type of rock strata would have no effect on the transmission of the radio waves. The factor, as I see it, that would control the efficiency of the system would be the latitude and longitude of the position chosen. Because of this, I believe that the site suggested north-west of Austin, Texas, would be an ideal location for the job. To be more precise, I would make the centre of the system at latitude 30 degrees and 33.464944 minutes: longitude 98 degrees and 14.9772858 minutes.

This would give geometric harmonics of:

Latitude: Cotangent 30° 33.464944′ = 1.69375 (1694 harmonic)

30° 33.464944′ = 1833.464944′

See mass ratio of proton and electron (Chapter Five).

Longitude: 98° 14.9772858' - 90° 00′ = 8° 14.9772858′

Radian 8° 14.9772858′ = 0.143983056

Harmonic 144000 - 16.944 = 143983.056

8° 14.9772858′ = 494.9772858′

Log 494.9772858 = 2.69458 (26944 harmonic)

(See unified equations).

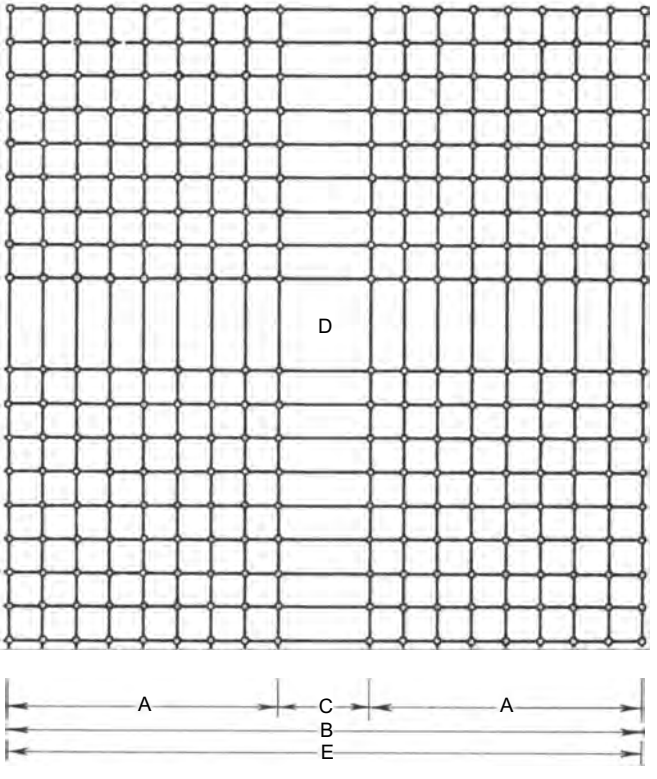
This pinpoint would be very close to one which would give the required harmonics to tune the radio transmission to the structure of matter very accurately.

But this is not all. The dimensions of the aerials, the spacing, and the area covered, are all vital requirements necessary to tune our world into the cosmos.

DIAGRAM 24

Showing theoretical grid structure of underground antenna for resonating the earth

The number of rectangular areas enclosed by the grid antenna not including the centre square is 288, the harmonic of 2C, where C equals the speed of light.
The number of amplifiers, shown by dots at each aerial intersection, is 324. This harmonic is shown in various ways throughout the book.
8 × 6.9444 = 55.555



Dimensions of grid antenna in minutes of arc:

(A) 55.555 (55.555 squared = 3086.358025, the reciprocal of 324)
(B) 130.1691208
(C) 18.489
(D) Centre of grid aerial position at Lat. 30° 33.464944′ Long. 98° 14.9772858′
(E) 129.6

129.6 would represent a half-wave of 259.2.
The circumference of the earth, 21,600 minutes, divided by 259.2 is equal to 83.33333333. The square of this figure is 6944.44444, which represents the reciprocal of the speed of light.
The square of 130.1691208 is equal to 16944, the harmonic of the proton.

The given dimensions are an aerial spacing of 8 miles, and an area covered, of 150 miles for each side of the square. (See Diagram 24). This looks very close to what I would see as a theoretical system.

8 miles = 6.944 nautical miles, or minutes of arc
= reciprocal of light harmonic.
150 miles = 130.2310285 minutes of arc.
130.2310285^2 = 16960.12079 close to harmonic of proton mass.

Working backwards from the harmonic of proton mass 16944

$\sqrt{16944} = 130.1691208$ minutes
$130.1691208' = 149.928694$ miles.

So it appears that if the aerials are spaced at 8 miles, and the sides of the square covered by the system are 149.928694 miles long, our aerial would be fairly closely tuned to the atom. Any signal transmitted by such a system should, in theory, travel a great distance into space.

Hello, neighbour!

FOURTEEN

INTELLIGENT SIGNALS FROM SPACE

IF OTHER WORLDS ARE POPULATED and the inhabitants communicate freely with one another, both by electronic means and with space vehicles, then we would expect to discover signals coming in to us which would indicate that a network of navigation beacons had been set up within the galaxy. It would be impossible to navigate across such vast distances with any accuracy unless such a system was set up. As the planetary confederations pushed further and further out into space they would, of necessity, have to create powerful broadcasting beacons to map the trade lanes through the star fields. The beacons would logically be coded in such a way that they could be immediately recognised as artificial transmitters and, apart from the navigation aspect, would serve to alert other civilisations that intelligent entities existed in other parts of the universe.

In 1968 a group of scientists at Cambridge University detected extraterrestrial radio signals that were highly unusual, and were unable to fit them into any known category. The signals are intermittent in nature and have a very precise order of transmission. Because of this they have been named pulsars.

Four sources of pulsars were discovered by the Cambridge scientific team. They were found to be emanating from positions within our galaxy, and within 200 light years from earth. The signals are emitted in pulses: one exactly every 1.3372795 seconds for a time period of one minute, then a break of three or four minutes, in a continuous cycle. The timing of the signals is accurate to one part in one hundred million. No manmade equipment can equal this for precision and the question is, is nature playing a trick on us, or do we have friends out there?

The latter possibility is the one that I would consider most probable, because of very strong circumstantial evidence of a mathematical nature. In my earlier work I established a unified equation based on the harmonic of the speed of light. It would

be logical to assume that signals based on derivatives of this equation would be ideal for broadcasting transmissions throughout space, so let us look more closely at the coding of the pulsars.

One derivative of the unified field equation:

$$26944 = \sqrt{\left(2C + \sqrt{\frac{1}{2C}}\right)(2C)^2}$$

The pulsar signal = One pulse every 1.3372795 seconds for one minute—then a break of 3–4 min.

If we use the harmonic of a circle as a time-base, or 360°, we have:

360 ÷ 1.3372795 = 269.2032593

Or very close to the 26944 harmonic.

Another pulsar has been discovered which has a period of 0.089 seconds. We can again use the harmonic of a circle as a time base, but this time in minutes of arc:

21600 ÷ 0.089 = 242696.6292

Or close to 2426944 harmonic.

The evidence is very persuasive that the signals are based on derivatives of the unified field equation, in various multiples. More research will have to be carried out but I am convinced that this is the correct track to follow. Slight variations of the 26944 harmonic could be caused by doppler effect, or the relative motions of the earth and the transmitter bases. Many other pulsar sources have now been discovered and when they are deciphered by computer I'm sure it will be found that their periods of transmission have a mathematical affinity with the unified equation.

Another unusual occurrence baffled scientists in 1957. Mysterious radio signals were detected coming from a moving object somewhere out in space. There were only two Russian satellites up in orbit at the time, and they were transmitting on frequencies far removed from the frequency of the mystery source. The tracked frequency: 14.286 megacycles, which is equal to 14,286,000 cycles per second. The equivalent number of

cycles in grid seconds, which are equal to $^{8}/_{9}$ths of a normal second:

$$\frac{14286000}{9} \times \frac{8}{1} = 12698666 \text{ cycles grid/sec.}$$

Not far off 126944 harmonic?

It would be interesting to know the direction of travel and the speed of the object, relative to earth, so that the doppler effect, or frequency shift, could be calculated.

Was this another of our neighbours transmitting to home base, reporting that the earthlings had put up their first puny satellites, and could soon be ready to venture out into the galaxy?

FIFTEEN

THE AUSTRALIAN STONEHENGE

UNTIL RECENT YEARS the vast Australian outback was thought to have always been a barren, windswept sandy desert, devoid of all signs of civilisation. A chance discovery in early 1953 was to change this concept and prove to the world that at some period, way back in what the Aboriginals call the dreamtime, a highly advanced and long-forgotten race had raised constructions there that could be of great scientific importance.

The evidence had been hidden away beneath the sand for centuries and came to light only because a modern-day scientific research team found it necessary to venture into the area in order to probe the secrets of the atom. Ever since the first atomic bombs were dropped on Hiroshima and Nagasaki to end World War Two, the race had been on to discover all that could possibly be known about the structure of matter.

After successful tests at Monte Bello Island carried out by a team of scientists headed by Sir William Penny, it was decided to establish a more permanent test site in south Central Australia.

The person chosen to find and survey the site was a man well used to similar types of operations, by the name of Len Beadell. He had spent months of his life in the Australian outback on surveying expeditions and was chosen as the most experienced man for the job. The trip into the interior was a story unto itself and Mr Beadell did an excellent job of this in his well-written book called *Blast The Bush*, published in 1967.

The initial site chosen was called "Emu" and needless to say the coordinates of the bomb tower were such that certain harmonics of light were fulfilled to cause atomic disruption of the radioactive material placed upon it.

While preparations were being carried out for the first tests it was decided to send an expedition to survey a more permanent site further south which would be much nearer the trans-

Australian railway line. Len Beadell once more led his small team into the desert wilderness in their Land-Rovers to blaze a trail to this new position. During this trip he was the first man in modern times to set eyes on the leftovers of an ancient civilisation on the Australian continent.

I had read Mr Beadell's book some years before, and had put it aside with an idea in my mind to carry out at a later date some research on the information he gave. Recently my family and I spent a few days in Australia and while there we were shown some recent photographs which had been taken of the same area. It was this information that brought my immediate attention to that isolated spot in the desert. On returning to New Zealand I carried out some calculations and decided to contact Mr Beadell immediately for more accurate information. With his permission I quote from his book: "Just about everyone had a colour camera, and I had a black-and-white one, so photographs for the recording of our trip were constantly being taken. None of us knew that we were on the brink of one of the most startling discoveries ever made on any of our expeditions past, present, or future, a discovery that would provide ample scope for all our cameras".

The convoy of Land-Rovers had come upon a small claypan nestled among sandhills, and while the others drove their vehicles over it just for the sheer joy of being on a flat surface after hours of struggling up and down sand dunes, Len Beadell decided to do a quiet bit of exploring on his own:

> I did however have a brief scan of the rocky steep bank on the western side to find the best lead out from this claypan. . . . the small plateau beyond was roughly six feet higher than the level of the claypan. Dotted about with casuarinas or sheoaks it looked a very pleasant spot. The shales seemed to have broken away to form an inclined plane which could be used as a ramp slightly to the south of where I was, so I started up and veered towards it to be in position at its base when the others were ready to follow. When they noticed my movement they made towards me so I started the rough shale-strewn ascent.
>
> The moment my vehicle topped the rise to level out again, I saw it, spread out right across my path, extending for at least sixty yards either side. It was almost like a picket fence with

posts six feet apart made from slivers of shale. Tingling with excitement I switched off and leapt out of the cabin. Being in so isolated an area it was obviously an ancient Aboriginal ceremonial ground built by those primitive Stone Age nomads in some distant dreamtime. And here we were, surely the first white men ever to be gazing in awe at the sight, scarcely daring to breathe in order to hold the atmosphere of it all and to prolong the memory of this dramatic moment to its limit.

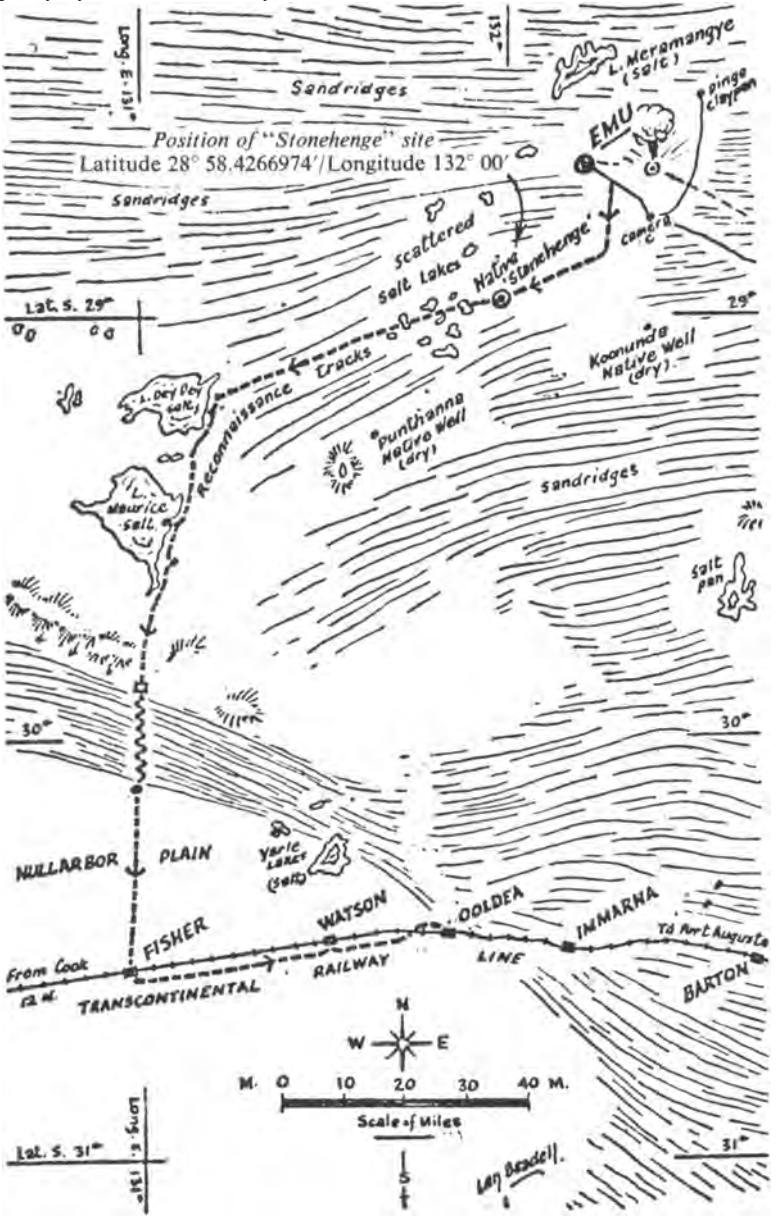
The others had driven up the rocky incline and had stopped, wondering for a fleeting instant what was the trouble, until they all saw the reason for themselves. We all knew without saying that it was going to cause much speculation and theory, and that we would all be recapturing this scene for years to come. Moved by curiosity we ventured forward slowly on foot, as if we were creeping about an antique egg-shell china-shop. . . .

It was impossible to tell how old the posts were, but they must have been pretty old for they were well-weathered at their base where countless ground thermals and wind currents off the claypan had sandblasted them.

The area was about a hundred and twenty yards long, the main line bearing a few degrees west of north. The individual slivers of grey, water-impervious shale were protruding three feet above the surface of the plateau, and judging by the one or two which were leaning or fallen they seemed to be embedded about a foot or so beneath. Each was comparable in section to its neighbour, measuring four inches by three, very rectangular, and with a perfectly straight long axis. There were about sixty of them about two yards apart. As well as these there were clusters vaguely resembling stooks of hay each made up of one centre "post" of shale with a dozen or so slivers leaning in towards it, the inner ones resting against, and seemingly propping up, the centre; they covered a circle three feet in diameter and were three feet high. On closer inspection they seemed to be rather carefully placed. I counted half a dozen of these clusters in all, one placed at either end of the main line, at its centre and one several yards distant on its own; the other two were on the plateau level on the eastern and western side. One of these was erected about fifteen yards

MAP 3

This map was originally produced by Len Beadell during the survey of the site for an atomic bomb test. The rough position of the "Native Stonehenge", discovered purely by accident, is clearly shown.



west of the southern extremity but on a raised natural rock dais eight feet higher than the others, and what we took to be the main one of all, was the cluster built roughly a chain west of the northern extremity.

At the time of this amazing discovery Mr Beadell had carried out a hurried survey of the site to record its position for the armchair boffins back in civilisation, and it was this information that was necessary for my own research into the possible reason for the remote location of the ancient construction. Len had thought the work had been carried out by an Aboriginal community way back in the distant past, and at that time there was not much evidence to show otherwise. No other explanation would fit the known facts.

The photographs shown to us a few months ago changed this explanation dramatically.

Over the years, since the original discovery, either nature, due to weathering, or man, due to his insatiable curiosity, had uncovered the sand from a corner of the plateau, and laid bare a small section of stonework which had lain hidden possibly for centuries.

In startling detail the photographs showed a small section of paved surface. The paving stones were large and rectangular in shape and several inches thick. They were very accurately cut and fitted together in an extremely precise tessellated pattern. It was immediately obvious that no primitive race could have had a hand in a construction such as this. The tools necessary to carry out such an operation pointed to a much more advanced type of civilisation being in the area at the time. A find of this nature would be expected more so in Greece, or Rome, than in the Australian outback.

Mr Beadell described the plateau as being about six feet above the level of the claypan, with a sort of natural ramp on one side, up which he had driven his Land-Rover. This suggests that the stone platform under the sand is the top surface of a construction which is at least a few feet high and possibly of something buried deeper in the drifting sand. The ramp could be the buried remains of a flight of steps perhaps.

Recently Mr Beadell successfully led another team into the area of the "Stonehenge" site, armed with movie cameras and other gear in order to gather more information necessary for

our research purposes. I only wish I could have been one of the party, but my flying commitments with the airline necessitated my remaining in New Zealand.

When discussing the find with him on the telephone, he said he had misplaced the original survey data he had recorded at the time but would replot the position on his maps and send me a set of coordinates which would be within one minute of arc in latitude and longitude. He was true to his word and sent off the data the same day.

The reason I was curious was that the "Stonehenge" site was not far distant from that chosen for the atom test. I had long since discovered the geometric nature of the bomb, which has been verified from scientific sources since I published my findings. The coordinates of the bomb tower at Emu, according to map information, should have been at, or close to:

Latitude 28.63055°/Longitude 132.426°

$$28.63055° = 28.8° - 0.16944°$$

$$132.426° - 90° = 42.426°$$

$$42.426° = 2545.56′$$

The importance of these geometric harmonics has been discussed at length in my previous writings and other sections of this book.

The "Stonehenge" site was not concerned with the disruption of matter but as it was close to the geometric point necessary to carry out this method of destruction, it could possibly be connected in some way with light harmonics. The ancient site could also have some scientific meaning which would be of great importance to us.

The position supplied by Mr Beadell was:
Latitude 28° 58′S/Longitude 132° 00′E

The theoretical position which I had calculated was:
Latitude 28° 58.4266974′/Longitude 132° 00′E

I was quite pleased when I compared the two sets of coordinates as the latitude supplied by Len Beadell was within a half-mile of my theoretical position and the longitude was spot-on. Allowing for his variation of one minute of arc this was pretty good. I had worked out another possible latitude a couple of

miles or so north but the closest one to Beadell's plot appears to be the most likely.

A latitude of 28° 58.4266974′ gives the following geometric harmonic:

28° 58.4266974′ = 28.97377829°
28.97377829° = 1738.426697′
√1738.426697 = 41.694444
= 4169444 harmonic

The longitude of 132° 00′
180° – 132° = 48° 00′
48° 00′ = 2880′
= 288 harmonic

It appears from this that the "Stonehenge" site has been positioned in such a way as to make use of the harmonic wave-forms of pure light and the harmonic wave-forms of physical matter. Could this be for some obscure religious purpose, scientific purpose, or merely as a communications base for passing information to our neighbours in space?

Hopefully much more information will be made available about the stone platform in the near future which will help us to probe further into the mystery. So much of this type of evidence is being discovered now that several lifetimes would be necessary to carry out all the research. What we need is a concentration of dedicated scientific minds to spend full time on discoveries of this nature, with complete freedom to pass all their findings on to the public.

SIXTEEN

SPECULATIONS

I HAVE MADE REFERENCE MANY TIMES TO THE fact that most of the so-called large meteorite craters scattered round the world have been caused by explosions which have been triggered due to geometric imbalance below the surface of the earth.

Another crater which I have checked that shows evidence of this is a mighty surface scar in the Northern Territory desert of Australia. It is known as Gosse's Bluff Meteorite Crater and is an awe-inspiring three miles in diameter, with a rim which in places rises to 700 feet above the desert floor.

The latitude and longitude checked to fall within the crater walls are:

Latitude 23° 50.7440826′/Longitude 132° 16.944′

Latitude calculation:

23° 50.7440826′ = 23.84573471°

The cube root of harmonic 2384573471 = 28783.056

28800 – 28783.056 = 16.944

Longitude calculation:

132° 16.944′ = 132.2824°

180° – 132.2824° = 47.7176°

47.7176° = 2863.056′

2880 – 2863.056 = 16.944

In both the latitude and longitude positions the harmonic of twice the speed of light, 288, and that of proton mass, 16944, are evident. This I believe to be further proof that matter can be formed, or destroyed, by geometric manipulation.

Another interesting fact is that the difference in latitude between the Gosse's Bluff "meteorite" crater and the atom-bomb test site at Emu is 287.0892 minutes of arc. The square root of this number is 16.944. I think this is trying to tell us something.

The Geometric Value for Light Speed on the Surface of any Spherical Body

If the circumference of any sphere, regardless of size, is taken as a geometric value of 360°, then the radius of any sphere is a standard of 57.29577951 degrees in measurement equivalent to the surface of the sphere.

The surface area in square degrees would therefore be $4\pi R^2$ where R was equal to 57.29577951.

Surface area 41252.96125 square degrees.

If the radius of 57.29577951 is multiplied by the factor 720 the answer is also 41252.96125. It appears that 720 must be equal to $4\pi R$. As 72 is equal to half the harmonic of light 144 then

$$\text{Harmonically } \frac{C}{2} = 4\pi R$$

$$\text{or} \qquad C = 2(4\pi R)$$

The light speed on the surface of any spherical body could be calculated according to this harmonic formula, thus denoting the light value relative to that calculated on the earth's surface.

Geothermal Energy

As world population and technology increase there is an ever-growing need for more and more energy production to provide power for industry, and power and lighting for the growing number of homes. One of the methods being closely looked at is the use of geothermal steam. Italian engineers were the first to experiment with the production of cheap electric power by the use of steam generated from the heat deep beneath the earth's crust. This was away back in 1904, and now the steam issuing from specially drilled wells near Larderello in Tuscany is sufficient to produce around 2,000 million kilowatt hours of power per year. Thousands of homes are heated in a similar way in Iceland. The USA and New Zealand also make use of this source of energy.

The main area in New Zealand where large quantities of underground steam is available is in the central North Island region, roughly between Lake Taupo and Rotorua. The experimental steam bores at Broadlands attract the attention of scientists from all around the world and a great amount of research is being carried out there.

What has made me curious is the method by which the scientists decide where to drill a steam borehole in order to obtain the maximum results for the effort. I decided to apply some of the mathematical results from my own research to this area. I found, much to my satisfaction, that it is more than probable that very precise locations could be calculated by computer without even going near the area in question until it was necessary to carry out the practical work of boring a hole. I would think that the problem is fundamentally one of geometric location on the earth's surface. The geometric harmonics, in a particular position within the earth's crust, set in motion the forces which produce heat and other effects.

The steam bores at the Broadlands experimental station are scattered over a very interesting geological area, and present a series of options for research into harmonic location. The positions which would indicate the best probable results, according to my knowledge at this time, would be those on:

Latitudes 38° 31′ south
38° 34.8′ south

Longitudes 176° 24′ east
176° 30.8′ east

Latitude 38° 31′ = 2311 minutes of arc
= harmonic 2311
= log of earth mass 17025

Latitude 38° 34.8′ = 2314.8 minutes of arc.
= harmonic reciprocal 43.2 (see Italian geothermal area at Larderello)

Longitude 176° 24′ = 176° 24′ – 90° 00′ = 86° 24′
86° 24′ = 5184 minutes of arc
$\sqrt{5184} = 72$ = Harmonic of $\frac{C}{2}$ (half light speed)

Longitude 176° 30.8′ = 5190.8 minutes of arc.

The square of 5190.8 = 269444 (see unified equation pages).

The atomic structure of large areas of mass below the surface is constantly being harmonically agitated to produce extreme heat. It is not surprising to me that there are rumours of natur-

ally heavy water being found in this area, and that overseas interests have contemplated building an atomic breeder station close to Broadlands. This could be one of the few places in the world where it would work at maximum efficiency.

The Italians have an ideal position to probe for underground superheated steam just on the outskirts of the town of Larderello. The position to the south east is latitude 43° 12′ north/longitude 10° 54′ east.

Latitude 43° 12′ = 2592 minutes of arc (43.2°)

$\sqrt{2592} = 50.9116$

Harmonic 509116 = Twice the harmonic value of 254558 incorporated in the grid polar squares of the world system.

$2592 \div 4 =$ 648 = (324 × 2) or twice spiral π. See other sections of this book for references to 648 harmonic.

Longitude 10° 54′ = Natural secant of 5.288
Harmonic of twice the speed of light evident (288).

A longitude of 10° 33.6′ east (10.56°) would give a value of 169.44° (harmonic 16944) when subtracted from longitude 180°.

Communications From Space

It is interesting to note that the Russians are seriously involved in a project concerning communication with other civilisations in outer space. Large receiving stations have been constructed in remote areas of the country in order to carry out a constant listening watch for signals coming in from any part of the galaxy. If we have neighbours out there the scientists are hopefully prepared to intercept their chatter. If it can be established that intelligent signals are being received, then two-way communication is the next step.

Three of the major stations have been established at Mt Yevpatcria, in the Crimea; Ussuriysk in Vladivostok, and Pamirs, forming a large triangle. The distance in minutes of arc between the stations is

Mt Yevpatcria–Ussuriysk = 4236 = (16944 ÷ 4)
Mt Yevpatcria–Pamirs = 1215 = (4860 ÷ 4)
Pamirs–Ussuriysk = 3694

Strange?

The Harmonic 16944

According to my research, it appears that the structure of the atom creates a harmonic liaison between the mass of the protons in the nucleus and the electron shell which encompasses it.

The harmonic associated with the proton is 16944. The calculations regarding the mass of the Great Pyramid of Giza indicate that the structure is harmonically tuned to that of electron mass. It is significant that the height of the floor of the main resonant chamber (King's chamber) is 1694.4 geodetic inches from the base of the Pyramid, thus setting up a geometric proposition tuned to the atom.

Another interesting fact is the cube root of the harmonic of the height of the pyramid in geodetic feet, 486; namely 4.86 = 1.6939 (1.694).

The Refining of Aluminium

A large number of metals are extracted from the natural ore by a heating process in conjunction with coke or carbon. This process does not work for aluminium, and it wasn't until around 1886 that a method of electrolysis was developed by Charles M. Hall. The most common ore of aluminium is bauxite, or aluminium oxide, Al_2O_3. The decomposition of bauxite by electrolysis is accomplished after the oxide is cleaned of all impurities and then dissolved in fused cryolite, or sodium aluminium fluoride, Na_3AlF_6.

In the Hall process the electrical cathode consists of an iron box which holds the solution of aluminium oxide in fused cryolite. The anode is made up of a number of carbon rods which dip down into the solution to form an electrical circuit.

When current is made to flow through the system the negative oxygen ions migrate to the carbon rods and the aluminium ions migrate to the iron box cathode, which is lined with carbon, where they are discharged to form aluminium atoms. The fused

aluminium builds up in the bottom of the box and is then tapped off into large crucibles.

The whole process is a very expensive one as a large amount of electric power is required and a high temperature must be maintained within the iron box during the refining cycle.

As the atomic weight of aluminium is around the harmonic value of 26944 (26.944), which is one of the answers derived from the unified field equation in my earlier work of some years ago, I had a feeling that the process was dependent directly on harmonic resonance.

I considered that temperature was one of the most essential requirements in the manipulation of the elements and therefore had a closer look at the particular level of temperature which was necessary for the precipitation of aluminium atoms in the iron box apparatus. The temperature was found to be a steady 950° centigrade.

I had already discovered that the temperature gradient, from absolute zero, can be regarded as a harmonic series (see Chapter Ten). On the harmonic scale, the theoretical value for absolute zero in degrees centigrade proved to be –274°C. The absolute temperature level for refining aluminium can therefore be taken as 1224° (950 + 274) on the Cathie Scale of harmonic temperature. I found by calculator that a value of 1224.073511° has a reciprocal harmonic value of 8169444. This gives a number which denotes the proton harmonic 16944 prefixed by the octave value of 8. The temperature is so close to the actual one required that for all practical purposes I would say they are the same.

I feel that this proves without much doubt that the temperature is critical because of its harmonic associations. This factor most probably applies to all other elements during the refining process and will be checked at a later date.

The next step I considered to be conditional for the refining process would be the geometric location of the electric smelters on the earth's surface. To guarantee free precipitation of the aluminium atoms I was almost certain that the geometric harmonics of the surface location on the earth were a requirement for the smelting apparatus. This is a similar proposition to the detonation of an atom bomb, or the location of an atomic breeder station. The geometric position controls the manipulation of the wave-patterns forming physical matter.

In the New Zealand area I found that the most likely position to help the process along geometrically was in the South Island:

Latitude 46.56°/Longitude 168.426666°

The tangent of the angle 46.56° = 1.056

Harmonic 1056 = Harmonic cross-sectional area of atomic structure.

The sine of the angle 46.56° = .726

Harmonic 726 = The square of harmonic 26944

See unified equation and length of slanted edges of Great Pyramid (Chapters One and Eight).

The longitude 168.42666° when subtracted from longitude 180° gives a value of 11.57333°. If we change 11.57333° into minutes of arc, we get a value of 694.4 minutes.

The reciprocal of the speed of light.

Are we lucky enough to have one of the few positions in the world, in our country, which are crucial to the successful refining of aluminium? If so, it must be of immense value to us.

Blood Heat

If temperature is a critical factor in relation to the interactions of physical substance, then the human body must have an optimum temperature at which it functions most efficiently.

The *Dictionary of Medicine* (the *Marshall Cavendish*) states: "The average temperature of a human being is taken to be 98.4°F in Great Britain, but American doctors prefer to take it as 98.6°F. Readings between 97°F and 99°F are completely normal. Temperatures much below 97°F are usually only found either in under-activity of the thyroid, or after exposure to cold. Temperatures between 99°F and 100°F may not be of much importance, especially in children, but readings of over 100°F are almost invariably indicative of some infection (or sometimes some other form of inflammation)".

I would predict that the temperature at which the human body performs most efficiently, both physically and mentally, is 98.80412°F.

98.80412° fahrenheit = 37.1134° centigrade

The harmonic reciprocal of 371134 = 269444

$$26944 = \sqrt{\left(2C + \sqrt{\frac{1}{2C}}\right)(2C)^2}$$

Where C = speed of light harmonic

(See universal equation page 27, and harmonic temperature scale page 135).

It would be interesting to check the average temperature of the inhabitants of each country in the world and match this against physical and scientific achievement to see if there is any correlation. If this proved to be so, then man is truly a being tuned into the cosmos.

It may pay us to warm up our scientists a little?

Lithium

The Marshall Cavendish book on *The Atom* states: "One isotope of lithium has three protons and three neutrons in its nucleus, giving a mass number of 6. But the atomic weight of lithium is 6.94 because of a significant contribution by an isotope with three protons and four neutrons: that is, a mass number of 7. The average of these two isotopes is 6.94 rather than exactly 6.5 because there is much more naturally occurring lithium 7 than there is lithium 6".

We can see from this the reason why lithium has become a very important element on the world market. The atomic weight of 6.94 is the harmonic reciprocal of light speed 144. This makes the element ideal for the construction of extremely efficient batteries. (The batteries used in the lunar module and other space research vehicles are of the lithium type). The element is also used in many other types of modern electrical apparatus.

Atom Bomb Tests

In my first two books I pointed out that the harmonic geometrics of the earth are a necessary factor in the successful detonation of an atomic-type device. Certain points on the earth must be selected because of their harmonic geometric location. It was shown that the islands of Bikini and Eniwitok in the Pacific were used because the latitudes were 695 minutes of arc north of the equator. This gave the scientists perfect positions to set up bomb apparatus tuned to the reciprocal of the speed of light

(694.444 harmonic). Successful detonations devastated the islands, proving that the scientists knew what they were up to.

Closer to home and more recently, the French have been causing ill feeling in the Pacific by the use of Mururoa Atoll for their testing programme. Why don't they carry them out in France or somewhere close to their own shores, is the argument, instead of harassing the friendly peoples of the Pacific?

The reason is that they can't, as the proposition is a geometric one. The following may point this fact out once again. In 1973, during all the protests and opposition to the tests, a small news item appeared in the Auckland *Sunday Herald* on 7 October, headed ANTARCTIC BASE FOR N-TESTING (by Gilbert Sedbon, Paris NZPA—Reuter): "France may use the Antarctic island of Kerguelen—about 2500 miles south-west of Perth—as its new nuclear testing base. Work is now proceeding on the island for a possible relocation of France's huge new 'World Strategy' base in the Indian Ocean. If the French government decides to switch to underground nuclear tests because of world public opinion over its use of Mururoa Atoll it is possible that the Antarctic base may be used. The French have already built a space telecommunication station on Kerguelen Island which will serve as a direct link with their nuclear submarine fleet".

The latitude and longitude of Kerguelen Island:

Latitude 49° 30′ south/longitude 69° 30′ east

Latitude 49° 30′ = 49.5°

Log of harmonic 495 = 2.6946 (harmonic 26944, see unified equation)

49° 30′ = 2970′

Hyp/sine (harmonic) 2.97 = 9.72

Harmonic 972 = Harmonic of grid time in seconds.

Longitude 69° 30′ = 69.5′

Harmonic 695 (6944) = Reciprocal of the speed of light.

It is obvious from the above geometrics that a position chosen near the centre of Kerguelen Island would be ideal for the carrying out of atom tests, when correlated with my previous publications and recent findings. Is it necessary to show more evidence

before the public is made aware of the geometric nature of the bomb?

Headline AUCKLAND STAR 1 August 1974

SCIENTISTS FIND NEW ELEMENT

Moscow—Wednesday: Soviet scientists working at the Nuclear Research Institute at Dubna have discovered a new element with the atomic number of 106, Tass reported today.

The news agency said the scientists bombarded lead nuclei with accelerated ions of chromium-54 to produce the new element, which divided in radioactive decay in less than one-hundredth of a second.

The search for new elements is carried on mainly as a test of scientific theory and has little practical value. The elements are created in very small amounts and often have an extremely short life-span before radioactive breakup.

But according to scientists there is a theoretical possibility that some elements with higher atomic numbers may be more stable and of value—for example, as improved sources of neutrons for use in atomic fission.

What an idiotic statement to make—that the search for new elements of higher atomic number is of little practical value! The search for these elements is of the utmost importance for the advancement of science. The finding of the particular elements, atomic numbers 108, 126 and 144, could be essential for production of a machine to crash the space-time barrier. (See Chapter Five). It is possible that the heavier elements will be found deep down towards the centre of the earth when our technology is advanced enough for us to reach for them.

Headline AUCKLAND HERALD 16 October 1975

HEAVY HOLES IN SPACE

An American astronomer has produced rare visual evidence of the presence deep in space of a “black hole”, a mysterious object where time and space are distorted.

Black holes whose existence is largely theoretical are stars collapsing under intense gravitational forces, sucking in nearby material and emitting powerful X-ray pulses. . . . The black hole is thought to be between 16 and 32 kilometres

across but it is so compressed that a pin-head of its material would weigh millions of tons.

Could it be that the so-called black holes are the gateways between the universe and the anti-universe? The raw material that is necessary for the creation of matter may pass back and forth through small areas of space such as this, in a pendulum-type motion, to alternately form the universe and anti-universe. The action would take place, of course, over millions of years in terms of human time.

Planck's Constant

The quantum of action (symbol h). A universal constant. For any specified radiation, the magnitude of the energy emitted is given by the product hv, where v is the frequency of the radiation in cycles per second.

The physics books state this constant to be:

6.63×10^{-34} Kg metre^2/sec.

Just a wild speculation: If we convert this value to grid seconds, which is equivalent to $^8/_9$ths standard, we get:

5.893333×10^{-34} Kg metre^2/grid sec.

The reciprocal of this is: 0.1696832.

This is close to our value of 1694444 harmonic for proton mass. If we worked backwards from this figure could we establish a new constant harmonically associated with proton mass?

The reciprocal of .169444 = 5.901654824

$$5.901654824 \times \frac{9}{8} = 6.639361677$$

Therefore the theoretical new

constant = 6.63936×10^{-34} unit/sec.

Has One of Our UFOs Come Back?

In *Harmonic 33*, page 30, I described in the following passage a UFO that had been sighted in the Wellington area:

It is interesting to note that sightings which have occurred after I established the New Zealand grid have fitted the pattern perfectly. One of the most interesting of these was a

UFO which hovered over the radio masts at Mt Victoria, Wellington, on 31 May 1965. This object was seen by dozens of witnesses in the vicinity of the airport and as far away as the central city area. The weather on this particular day was filthy, and flying conditions were minimal. However I had been able to take off from Wellington airport less than half an hour before the UFO appeared.

The object was first sighted about 3.55 pm and was observed for over half an hour. It was first seen to descend from the clouds over Mt Victoria. It was generally oval in shape, but appeared to change in outline quite rapidly, as if it were tumbling. It hovered over the northern face of Mt Victoria for about ten minutes, then rose into a low stratus cloud layer covering Wellington Harbour. It appeared almost immediately farther north over Point Jerningham, the northern part of Evans Bay, then shortly after this it was seen again over Mt Victoria. It was approximately 20 feet in width or diameter, and greyish-white in colour. It was seen by experienced personnel in the airport control tower and by numerous witnesses around Wellington city. I understand that at least six people in Broadcasting House, Bowen Street, which is about two miles distant, also saw this strange object.

A report was given on the television news but so far as I know the newspapers were silent and the whole affair was quietly forgotten.

During the last nine months, a football-shaped UFO has been seen on many occasions in the Wellington area and this could very well be the same one seen over Mt Victoria. I anticipate it will continue to be seen until its job is done.

And now a recent report from the Wellington *Evening Post*, dated Friday 21 May 1976:

P.O. WORKERS' ELEVATED VIEW OF UFO

An unidentified flying object (UFO) was reported this morning by Post Office workers who say they watched it for about five minutes from their cafeteria on the twelfth floor of Post Office Headquarters in Waterloo Quay.

"We stood at the window and watched for about five minutes", said a spokesman for the twelve people. "The object appeared as a dark mass at first, then changed shape

> and kept disappearing and re-appearing. Basically it was oval in shape and hovered above Mt Kau Kau, to the left of the transmitter [TV transmitting mast]. It seemed to vary in size at first then steadied, and from then appeared as a thick mass".

So there we have two similar reports eleven years apart, 31 May 1965 to 21 May 1976. Has it completed its job yet, or can we expect another visit?

SEVENTEEN

WAKE UP, EARTH!

I AM CONVINCED BEYOND ANY REASONABLE DOUBT that space is the home of countless billions of intelligent beings. Among those billions there must be a great percentage of entities whose physical appearance is similar to ours. The human form is a highly efficient mechanism and a design team would find it very difficult to make any improvements. On earth we have many variations of this form but basically we are all very much the same.

Because of the growing mass of evidence that indicates we are not the sole owners of the universe, the probability that we will meet a traveller from some other part of our galaxy who looks much like we do is ever increasing. The acceleration of technical knowledge in recent times makes this prospect almost a certainty in the near future. Anyone who is interested enough to search through all the available evidence in the world today will find to his astonishment that there are very strong indications that contact with alien intelligences has already been accomplished by a number of individuals throughout history. These contacts have invariably been treated by the authorities at the time with ridicule or hostility. The contacts which they have been unable to hush up have been written into religious tracts as visitations by angels, or various emissaries of the gods who supposedly rule the heavens. Every method possible has been used to make certain that the public at large is kept ignorant of the fact that we are not alone.

The reason for this massive con job is not completely clear, but possibly greed, and a fear by the comparatively small group of people who decide our destiny that they will lose control of the ordinary individual, like you and me, if the truth is known, ensures that the evidence is suppressed.

One of the main arguments brought up in recent years as the increasing number of sightings of strange objects in the sky has

aroused public interest, is that if "they" exist why is it that astronomers, or other scientific people, do not see them? In actual fact, many of these people *have* seen unexplainable objects in the sky, and out in space. Unfortunately they would probably lose their jobs if they made too much of a fuss about it. In the early stages of my own research I was threatened with this very same thing, but common sense prevailed and I am still happily flying aircraft for a living and, as far as I am aware, within certain bounds, am in control of my own destiny. How long this will last is probably debatable.

Mr William Moser, president of the British Astronomical Association and general secretary of UFOIC Sydney, has brought attention to the fact that a great number of men of science have observed strange occurrences throughout recorded history. He lists some thirty-odd cases of sightings by astronomers and scientists dating from 7 February 1802 to 23 August 1966 in the newsletter of July/August 1973. The objects varied from cigar-, disc- and ovoid-shaped, and with sizes from three metres to two kilometres in diameter; both stationary and moving. This is only a small percentage of sightings which can be found by searching through old records. The general UFO-type publications list many of these.

I believe that researchers like myself read all this mass of material and get to the stage where they say to themselves "OK. I know they are out there and that every now and then a contact takes place. But what is to be done next?"

The obvious thing to do, as I have attempted to show in my writings, is to find scientific evidence which will help us to emulate the activities of the intelligences which we are continually observing invading our airspace. The time is past when long lists of sighting reports and unsubstantiated speculation will help us to advance our own knowledge, or to make progress. This information is essential in the early stages of a research project, but eventually we have to stop gathering new data and start using the stuff to form the basis of a new science. This is my main objection to many of the large international UFO organisations scattered round the world. Since the late 1940s they have gathered together massive amounts of evidence of UFO activity and related data. Their boards of directors and consultants list dozens of names of scientists, mathematicians, physicists,

astronomers and academics in all fields. Besides this they have direct access to computer facilities into which they can feed the truckfuls of information they have collected, hopefully to come up with some sort of intelligent analysis. Years have gone by yet nothing has happened—so far as the public are aware. I am very surprised, and very suspicious. As an individual with access to none of this sophisticated knowhow and technical machinery, I have been able to discover many areas where a small amount of research should bring a great spin-off of new knowledge. I am, perhaps, tenacious in my efforts to discover new concepts, but I have only an average education and level of intelligence. It is quite obvious to me that many of these organisations are not making known their findings and that the public are being kept blissfully in the dark.

Wake up, Earth! We are being taken for a ride and the time has come to demand the truth.

As I have pointed out earlier in this book, if space is being traversed by vehicles controlled by advanced intelligences, we would expect to intercept some sort of communication signals which are obviously being passed between the space vehicles and various bases scattered round the cosmos. Initially the interception of such signals would probably be accidental, as we would not be sure of the electronic principles behind long-distance communications over the millions of miles of space. Eventually, after scientific analysis, the concepts would be understood and a full-scale project could be contemplated which would hook us into the galactic switchboard. And this I believe is exactly what has happened.

As I was nearing completion of this book I received another letter from Mr Cook of Derbyshire, England. My writings have sparked him off on an independent line of calculations and from the information received from him it appears that he is on the way to opening up more areas for serious research. He decided to take a close look at some radio signals that were received from space in 1928, using the basis of harmonic mathematics that I formulated in my original work.

The radio signals were recorded in the 1920s by Norwegian, Dutch, and French experimenters. It was suggested in recent years that the long-delayed echoes of equally-spaced radio signals transmitted from earth could be interpreted in the form

of a code. A Mr D. A. Lunan, a graduate of Glasgow University, carried out an analysis along these lines and concluded that the echoes were being broadcast from a space probe in orbit somewhere in the vicinity of our moon.

The theory is that if an advanced civilisation wished to contact us, they would leave a space satellite in earth orbit, waiting quietly through the centuries until our technology reached the stage where we were able to interrogate it. I believe that the space probe is out there, and that it is programmed to teach us how to get out into space and join the galactic community.

Mr Lunan suggests that the signals identify the probe's origin as the double star Epsilon Bootis and puts its arrival in earth orbit at somewhere around 13,000 years ago. Another investigator made the comment that such probes might listen for our radio signals and repeat them back to us after obvious delays, such as those reported in the 1920s. It is thought that the device is still in orbit waiting for its secrets to be unlocked.

The APRO *Bulletin* of March/April 1973 states:

> American experimenters Taylor and Young first reported echoes coming from apparent distances of 2900 to 10,000 km in 1927. Halls, an engineer, reported to Carl Størmer of Oslo that echoes of 3 seconds delay had been heard at Eindhoven, Holland. On 11 October 1928 Carl Størmer, with Halls, helped by Van der Pol transmitting from Eindhoven, picked up 3-second echoes on 31.4 meters, which changed to echoes varying from 3 to 15 seconds (signal pulses were transmitted at 20-second intervals). Echoes were received in the following delay sequence: 8, 11–15, 8, 13, 3, 8, 8, 8–12, 15, 13, 8, 8. In two cases two echoes were heard 4 seconds apart.
>
> To the author the series of 3-second echoes without doppler shift constitute the statement: "Here I am in the orbit of your moon", while the varied series means something much more elaborate.
>
> He constructed a graph and plotted the delay time of each echo of the Van der Pol series against its position in the sequence presenting double echoes on the same line. . . . When delay time was graphed horizontally the result was a striking resemblance to the constellation Bootis. Bootis was missing, but when the 3-second point was transferred from the left of

> the vertical barrier formed by the 8-second points it completed the constellation figure by marking the position of Epsilon Bootis . . . This is interpreted to mean that Epsilon Bootis is the origin of the probe.

I do not wish to disagree with Mr Lunan's interpretation of the space signals when subjected to this type of analysis. What I do believe however is that the received signals, and others waiting to be triggered, are for the purpose of teaching us scientific knowledge pertaining to the universe itself. Many different types of information are sure to be coded into the system.

I had heard of the radio signals and Mr Lunan's work, but up until recently I had not spent any time in trying to decipher them. I was occupied with so many other interesting projects that I shelved this particular line of thought for some future date. That was until I received the letter from Mr Cook.

He had found many interesting mathematical associations between the space signals and my harmonic calculations. The most important and interesting piece of information that he passed to me was that the transmission which triggered the space echoes was broadcast on 31.4 metres and that when this wavelength was converted into minute of arc value to compare it with grid harmonics the answer was .016944 minutes of arc!

This was an amazing piece of news. The signals were tuned to the most important harmonic of 16944, as shown in other sections of my work. This must be a universal wavelength which will plug us into the space network. Did someone know something as far back as 1928, and are we about to make a serious attempt to communicate, as evidenced by the massive radio grid being constructed in the United States?

My interest was immediately focussed on the timed echoes and a method of approach worked out. The precisely timed delays suggested to me that the intervals were in some way associated with a standard time-base in connection with the earth itself. The only mathematical constant that would apply, as far as I could see, was the time taken for the earth to complete one revolution around its axis. Regardless of how we measured time, the ratio of the timed intervals measured against the earth's revolution would be a constant. Because of this I could

see that no matter whether I used standard time, or converted the delayed echoes into grid time, the ratios would remain constant. If the space probe was placed in orbit to teach us the secrets of the universe, the memory banks could possibly be mathematically programmed to broadcast a series of universal constants upon which we could base a new set of scientific concepts.

The way to test this was to divide the time of one earth revolution, in seconds, by the delayed intervals of the echoes to ascertain if any universal harmonics were evident.

The first series of echoes to be picked up before a change to varied intervals was spaced at periods of 3 seconds. It therefore appeared that this transmission was an extremely important one. If a specific harmonic were evident here it could point the way for the construction of the whole series. The time in seconds for one complete revolution of the world is 86400.

The calculated ratio for the three second interval:

86400 ÷ 3 = 28800 (288 harmonic)

No further encouragement was needed to press on with conversion of the rest of the series. The wavelength of the radio signals was tuned to the 16944 harmonic of proton mass, and the key transmission was equal to 288 (twice the speed of light harmonic), the pulse of the universe. The intelligence that left the message would realise that the civilisation that understood this one mathematical concept could be nearing the stage of venturing out into deep space.

In no time at all I had the rest of the ratio worked out, as tabulated below:

86400 ÷ 8 = 10800
86400 ÷ 11 = 7854.5454
86400 ÷ 15 = 5760
86400 ÷ 8 = 10800
86400 ÷ 13 = 6646.153846
86400 ÷ 3 = 28800
86400 ÷ 8 = 10800
86400 ÷ 8 = 10800

86400 ÷ 8 = 10800
86400 ÷ 12 = 7200
86400 ÷ 15 = 5760
86400 ÷ 13 = 6646.153846
86400 ÷ 8 = 10800
86400 ÷ 8 = 10800
86400 ÷ 4 = 21600

With three exceptions, the fifteen signals converted to ratios which had direct harmonic affinities with the mathematical concepts shown throughout this book. The ratios of 7854.5454 and 6646.153846 are rather odd combinations which I have been unable to decipher as yet. I admit that at this stage the proof is not absolute and that much more work will have to be done to understand all that the signals are trying to convey to us. But I believe that this method of approach to the problem would be rewarding.

Are we receiving other signals from the heavens which to us could be classed as divine?

There are many powerful religious groups in the world, each of them vying for the minds of man and promising various states of salvation or damnation for those of us who choose or reject their particular doctrine. It is very difficult for the ordinary person like me, who has a belief in some overall divine intelligence controlling the universe, to sort out which particular religious group is nearest to the truth. After all, if we, as individuals, are going to place our souls in the hands of one of these groups, we want to be very sure that they are not going to mess about with them. Out of all the thousands of religions there can only be one which is treading the path to absolute truth—maybe none of them are. We shall only be sure when we pass from this life and have a look for ourselves. In the meantime we can only choose the particular group that suits us best, or remain out of them all and search for truth in our own way.

My attention has recently been drawn to one of the major religions of modern day, as a result of my delving into the mathematical mysteries of the universe. *Time* magazine published an article on this religion in the issue of 16 September 1974, headed "Behind The Temple Walls". Some statements in the article are as follows:

> To people of other faiths, the Mormon temple is an impenetrable place of mystery . . . only Mormons in good standing can participate in the Holy "ordinances" that are performed in the temple precincts, or even visit the rooms where they are performed. . . .
>
> Although the exterior of the temple is striking—288 ft tall from the ground to the tip of the angel Moroni's trumpet and encased in 17,300 square feet of gleaming white Alabama

> marble—the interior does not inspire awe. Divided into dozens of rooms on nine levels, the temple has nothing comparable to the great nave and towering sanctuary of a traditional Christian cathedral. Indeed the Mormon temple is not built for regular worship (that purpose is served by thousands of local "ward" meeting houses) but for "temple work"—the performances of various church duties and doctrinal study. To the outsider the rooms seem to serve a function rather than majesty.

Has divine guidance had a hand here and inspired elders of the church to design a temple that reaches 288 feet into the air, to broadcast the voices of us mortals to the gods in the heavens? Out of curiosity I wondered if divine guidance had had any influence in the actual placing of one of these temples in a geometric sense. From my own work I had discovered that geometric location on the structure of the earth had profound effects on physical manifestations. Possibly the spiritual part of our nature could benefit by the effects of specific geometric location.

On 20 April 1958 a Mormon temple was dedicated at Temple View, Hamilton, New Zealand. My wife and I had been taken on a conducted tour of some parts of this temple shortly before it was closed off from public view. What we saw of the interior structure was very impressive, but in some ways strange to us, not being familiar with the Mormon beliefs.

I checked the placement of the temple on a survey map and found that within the area of Temple View the following co-ordinates could be plotted:

Latitude 37° 49.44′S/Longitude 175° 13.6944′E

37° 49.44′ = 2269.44′ (226944 harmonic)

175° 13.6944′ = 175.22824°

180° – 175.22824° = 4.77176°

4.77176° = 286.3056′

288 – 286.3056 = 1.6944′ (16944 harmonic)

It appears that the Supreme Intelligence has indeed inspired the Mormon faithful to build their places of worship in areas which are in harmony with nature.

In my first two books I described a visitor from space which has caused scientific controversy ever since its arrival at 7.17 a.m. on 30 June 1908. The reference was to the so-called "meteorite" which caused devastation as far as 65 kilometres away from the area of detonation in the Siberian tundra. Much more evidence is coming to light which proves fairly conclusively that the object was not a meteorite, or anything resembling a natural phenomenon. Recent reports gleaned from the *Christchurch Star* of 10 August 1976, and *National Enquirer* 13 May 1975, give the following information.

The phenomenon was described as a "pillar of flame" visible more than 320 kilometres away. The huge fireball changed to a boiling, mushroom-shaped cloud 20 kilometres high. Men 65 kilometres away suffered severe pain and some had their shirts singed on their backs. Trees within a 65-kilometre radius charred and withered. Black rain began to fall. The shock waves from the explosion travelled round the world twice.

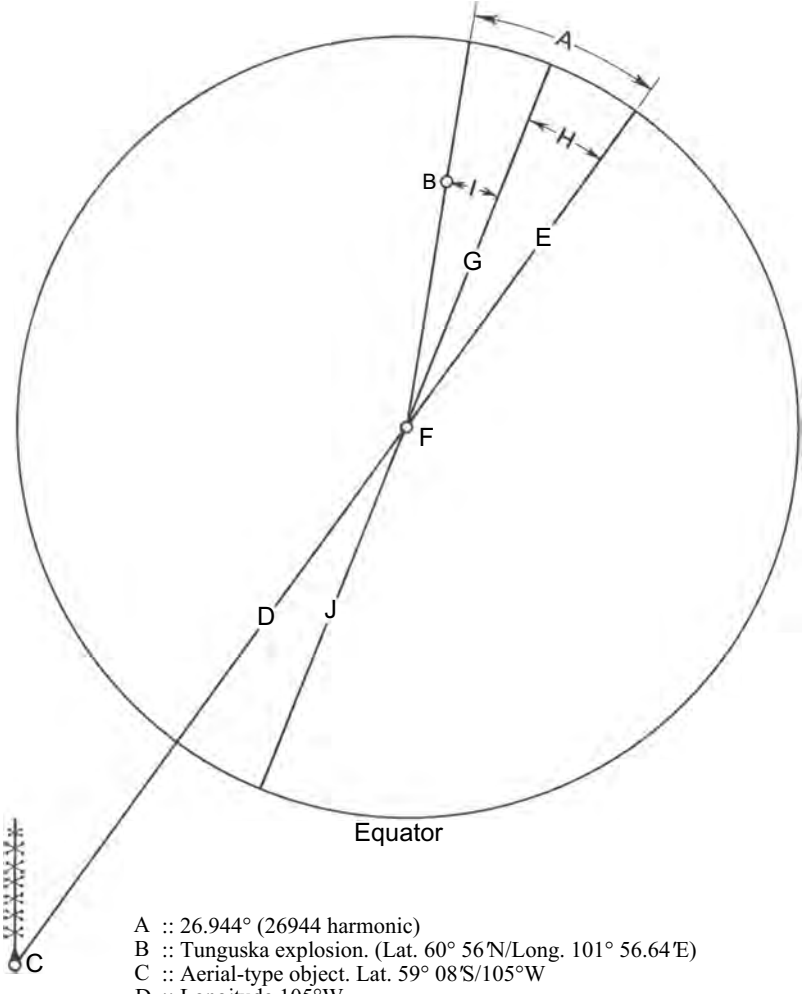
Dr Aleksei Zolotov, a Soviet scientist, states that it was a calling card from a highly advanced civilisation in outer space. He has spent fifteen years investigating the mystery and has found evidence of the radioactive isotope cesium-137 in the ring structure of trees at the site. A United States scientist, Bob Ryan, Director of Radiation Safety at Rensselaer Polytechnic Institute, agreed that the presence of cesium definitely indicated some type of nuclear reaction, as this element is the product of atomic fission. Evidently, fission is the only way you can produce cesium unless you use a nuclear accelerator.

Dr Zolotov was in charge of a Soviet scientific team equipped with the most sophisticated apparatus available in order to investigate the explosion. He said that all evidence pointed to a nuclear device having caused the fireball, which means it could not have been a meteorite. Only a civilisation from another world would have the technology to do it. Examination of the site with detection equipment proved there was a considerably greater radioactivity in the ashes of the trees in the centre of the explosion than in samples taken on its fringes. All the evidence scientifically recorded at the time of the blast is similar to what is recorded in a nuclear detonation. Dr Zolotov believes it is logical to expect a second demonstration of power in the future.

I gave the position of the explosion site, as nearly as I could

DIAGRAM 25

Showing relationship of Tunguska explosion to the world grid system, and the aerial-type object photographed on the sea-bed by the survey ship *Eltanin*.



A :: 26.944° (26944 harmonic)
B :: Tunguska explosion. (Lat. 60° 56′N/Long. 101° 56.64′E)
C :: Aerial-type object. Lat. 59° 08′S/105°W
D :: Longitude 105°W
E :: Longitude 75°E
F :: North Pole
G :: Longitude 89.4°E
H :: 14.4° (harmonic of light speed)
I :: 12.544° (694.32′ + 58.32′)
J :: Longitude 90.6°W

plot it, as latitude 60° 56′/longitude 101° 57′. It is only in the last few months that I realised that the Siberian blast could be related directly with the aerial-type object photographed on the sea bed by the survey ship *Eltanin*. A check with Diagram 25 will show that if the longitude of the undersea aerial 105° is extended through the north pole it becomes longitude 75° on the opposite side of the world. The longitudinal displacement between this meridian and the Tunguska meridian is:

101° 57′
–75° 00′
26° 57′ = 26.95° (2695)

A fractional displacement of the meridian to pinpoint the explosion site would bring this harmonic to 26944, the extreme importance of which has been shown in several sections of my research.

Other geometric areas on the earth's surface which I have mentioned before in my writings are those where the normal gravitational fields are grossly distorted. These small localised positions have been of great interest to scientists in recent years and no logical explanation has yet been given for the queer physical effects experienced within the boundaries of an "anomaly area". If a plumb-bob is suspended within the distorted field it will not hang vertically but at an angle; people who walk into such an area start walking with a lean on; light itself appears to be distorted, and photos taken of objects within the influence of the gravity-warp from outside the area, show all sorts of queer effects. Depending on position, for instance, objects can appear either physically elongated or shortened. According to reports at least seven of these areas have been located on the North American continent.

More information is gradually filtering out regarding these anomaly areas and I have discovered several mathematical leads in connection with the effects which I intend to follow up in later research. One of the best-known anomalies is called the Oregon Vortex, the position of which is given as 42° 29′ 40″ north/ 123° 05′ west. The area is circular with a diameter of just over 165 feet. A series of force-lines has been discovered passing

through the circle, running east-west and north-south, five lines one way and six the other. The given information does not indicate how the position was calculated; whether by map reference, or by a very accurate star survey.

Mathematical evidence indicates that a star survey should prove the longitude of the anomaly site to be 123° west in relation to the world grid. The displacement from grid longitudes 105° and 90.6° (the theoretical longitudes of the polar square diagonals) would then be 18° and 32.4°. As the square of 18 is 324 this harmonic is evident in relation to both grids, and the anomaly area. The importance of the 324 harmonic has been stressed in other sections of this book. The relationship of the latitude to the grid is not evident as yet, and will require checking by calculator. This I must leave to future research.

A theoretical diameter for the area which would be very close to the given value of around 165 feet 4 inches, would be 165 feet 3.7824 inches. This would give a conversion diameter of 163.14 geodetic, or grid, feet. Converted to grid inches we have 1957.68 inches.

The volume of a sphere with a diameter of 1957.68 grid inches equals 3928472654 cubic grid inches. This is getting extremely close to the harmonic of the resultant field strength of the earth (3928.371 lines of force per square geodetic inch) as shown in Equation 2 (Chapter One). This rough calculation would indicate that a spherical field is being produced in the gravity anomaly area, harmonically tuned to the magnetic field of the earth.

The force-lines discovered passing through the area could have some connection with the harmonic of the speed of light. I found that if I divided the number of force-lines east-west by those north-south, 5 ÷ 6, the value was .83333 repeating. The square of this figure is .694444 repeating—the reciprocal of 144 (the harmonic of the speed of light). The distorted optical effects in the area could be controlled by this factor.

It is my hope that at some time in the future arrangements can be made to visit one of these areas and to have accurate measurements taken with all the necessary scientific instruments. The relationship with the grid structure can then be thoroughly investigated by use of computers and harmonic mathematics.

My studies have led me up many paths over the last few years and helped me to understand that the universe and all things in it are inter-related. If the unified equations which I have formulated prove to be valid, or even partly valid, when checked by the academics, then the time I have spent on my research will be of some value.

If what I have written is sufficient to prove that not all knowledge can be found in the standard textbooks, and others are encouraged to carry out independent research, I shall be happy.

The most important aspect to be aware of is that we have neighbours out there, and that we must change our attitudes if we wish to join them.

Wake up, *Earth*! *We are about to be taken out of isolation*!